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ABSTRACT

A request for the creation and implementation of environmental education in the northwest region of Washington state is prepared in this project proposal. Designed as a model to aid in the development of a state plan for environmental education, this interdisciplinary, field- and people-oriented project of the Northwest Environmental Education Center plans to establish model/pilot projects throughout the region. Implementation is by a three-phase plan. The first, at the community level, establishes a pilot program in the Sedro-Woolley school district aimed at staff improvement and development, development of curriculum learning packages, field program implementation, and disseminating information about the program. The second phase proposes a two-part study with the Watcom County Park Board and schools participating to develop a county-wide model for the implementation of environmental education in the schools. A county environmental analysis project will be undertaken with the findings used in school program development. Regional applications compose the third phase and constitute a major portion of the document. The Whidbey Island site is to be utilized as a regional center for staff improvement and development, operating a program which will provide school districts with a hierarchy of environmental education specialists. [Not available in hardcopy due to marginal legibility of original document.] (BL)

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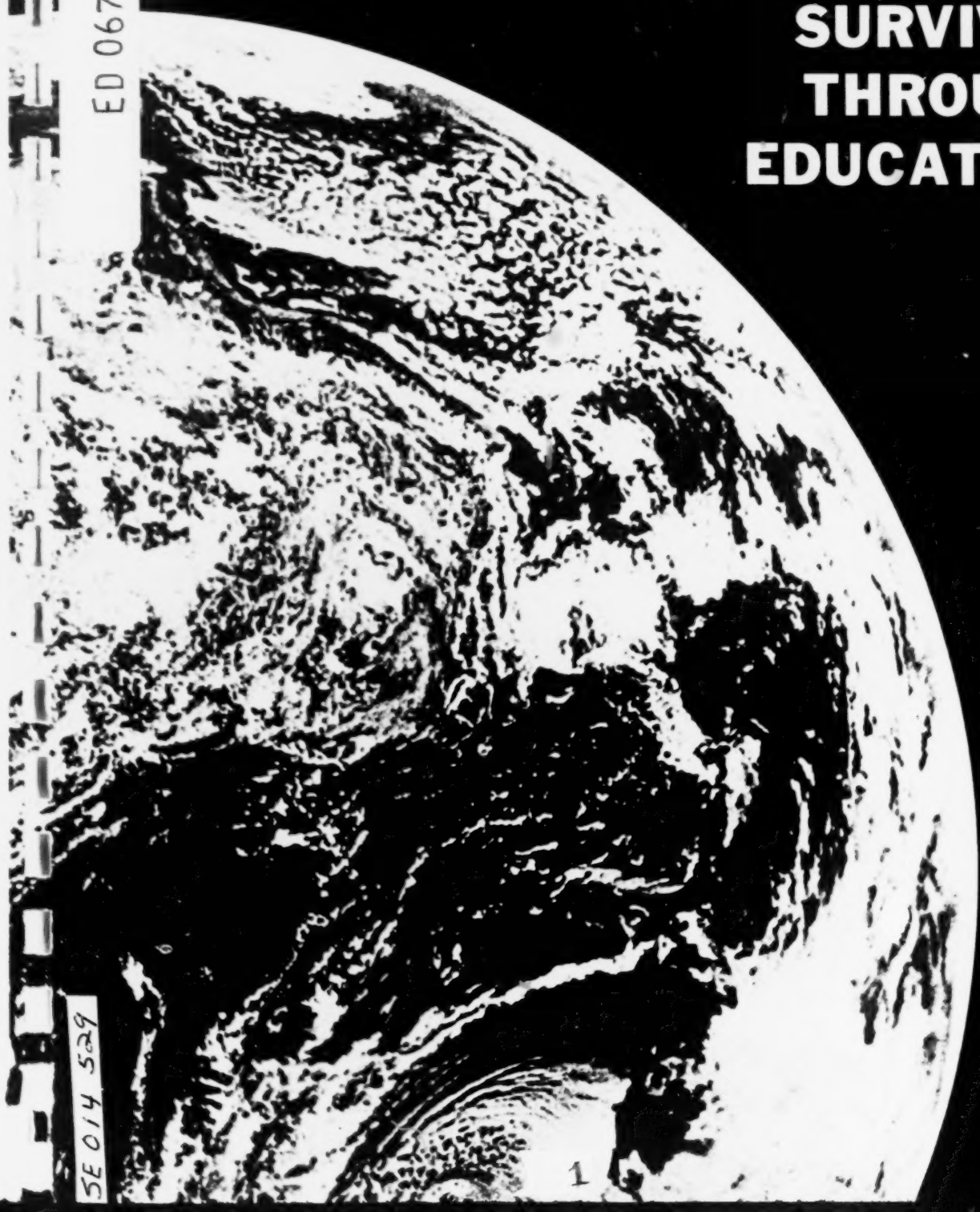
WHAT'S IT ALL ABOUT?

SURVIVAL THROUGH EDUCATION



SE 014 529

A PROPOSAL FOR THE CREATION AND IMPLEMENTATION OF ENVIRONMENTAL EDUCATION IN THE NORTHWEST REGION OF WASHINGTON STATE

OCTOBER 1970

Superintendent of Public Instruction

STATE OF WASHINGTON

Olympia

Louis Bruno
STATE SUPERINTENDENT

June 12, 1970

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Old Main Building
Western Washington State College
Bellingham, Washington 98225

Dear Bill:

During the past several months my office has become deeply involved in environmental education. The Extraordinary Session of the State Legislature saw fit to allow me to use a portion of my budget for two special projects. One is the program of the Northwest Environmental Education Center, which comprises the majority of school districts and colleges within the Northwest region of the state (Whatcom, Skagit, Snohomish, San Juan and Island Counties, and North King County).

It has been my understanding that the $50,000 project is for planning pilot programs in environmental education. I feel that this planning will give us a model that we need so greatly as we move ahead in the development of an efficient state plan for the environmental education of our people.

Cordially yours,

Louis Bruno
State Superintendent
of Public Instruction

LB:dc
cc: Royal McClure

PREPARED BY--

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*The Northwest Environmental Education Center was created 12 years ago through the cooperative efforts of the State Department of Natural Resources, Western Washington State College, the common schools within the five northwest counties (Whatcom, Island, San Juan, Skagit, Snohomish) and those within northern King County. The past two years have been devoted to planning by the Center for a region-wide program of environmental education that will have as its base of activities a 600-acre site on Whidbey Island.

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I. RATIONALE

A. Why the Need for Environmental Education?

One of the most difficult problems of assessing the nature of our environmental crisis is identifying the cause. Who or what is to blame for the deteriorating quality of our world? We attack our legal system for its failure to enact environmental legislation that establishes guidelines on how we are to behave; we blame an economic system that confuses quantity with quality; and we indict our schools for not telling us that we must respect our natural world if we are to survive.

When we look with honesty at how our institutions function in this country, however, we discover that we are the legal system, through representatives that reflect our wishes; we control the gross national product through our consumption; and we determine the kind of student our schools turn out by the kind of support and direction we give them.

How, then, can we change from within? What in our background has been missing? What kinds of information do we need to deal effectively with environmental problems? What values and attitudes must we adopt to function successfully and compatibly with our natural world?

This latter question raises the possibility of a philosophical change within the educational system itself. Should public schools concern themselves with values? Can it be done without tempting indoctrination? Other changes within the system may be called for. What we teach, the way we teach it, and the setting we teach it in may be challenged, requiring a whole new way of going about this business of education. Whatever we do, we must be responsive to the critical need to understand what our relationship to the environment is, and, consequently, what our responsibility to it must be.

B. How Will Environmental Education Differ From Traditional Education?

In the 1969 Report to the President by the U.S. Citizens Advisory Committee on Environmental Quality, the section on environmental education begins by saying, "Man's interaction with his environment, both natural and man-produced, is the basis of all learning--the very origin and substance of education. Yet, our formal education system has done little to produce an informed citizenry, sensitive to environmental problems and prepared and motivated to work toward their solutions." The report notes that there had been "excessive reliance on traditional methodology."

How do the concepts and methodology proposed by the Northwest Environmental Education Center intend to fill this void and produce an informed, sensitive, and motivated citizenry? After months of consideration by the staff of the Center, it was concluded that to be effective in changing attitudes and behavior, environmental education must be interdisciplinary, field-oriented, and people-oriented.

Why interdisciplinary?

The environmental crisis touches base with all disciplines. The Center has consulted with biologists, physicians, architects, economists, legislators, psychologists, industrialists, theologians, and others in order to arrive at a program that treats man in his total environment.

Why field-oriented?

There is neither the time, the luxury nor the need for the creation of hypothetical problems for classroom study. The debilitating impact of man on his environment surrounds our daily lives, the effects of which are rarely understood or appreciated until a crisis has arisen. First-hand investigation of the environment which has been altered by man must, therefore, be given priority over traditional classroom-oriented courses.

Why people-oriented?

The purpose of environmental education, as perceived by the Northwest Environmental Education Center, is to create changes in attitude (interest, motivation, values) and behavior (responsible action).

The Center addressed itself to the question: What can education do to change the inner man? It was agreed that education can challenge the idea
--that man is separate from nature;
--that the superiority of the human species gives man the license to exploit all lower forms of life;
--that the earth has a limitless supply of energy;
--that growth is good; that bigger is better;
--that technology will save us when all other efforts fail;
--that what happens to the human race elsewhere in the world will not affect us here;
--that what we do today is inconsequential to the future.

Implied in these challenges is the need for an environmental ethic that will provide man with a new code of conduct for living for mutual benefit with his physical world.

Such a program will produce a citizenry "aware of long-run consequences of short-run plans, and alive to the dangers of patchwork approaches to problems of food supply and population, energy sources, underdevelopment, pollution, and other social issues."[1]

C. What Must a Program of Environmental Education Have in Order to Be Successful?

According to a report of the Environmental Study Group to the Environmental Studies Board of the National Academy of Sciences,[2] a successful program of environmental education depends upon three things:

1. Inspired leadership.
2. Sustained adequate support.
3. An appropriate academic environment, i.e., work space, moral support, efficient management, as well as teacher training facilities.

The Northwest Environmental Education Center recommends that this list be expanded to include freedom with which to carry out what are intended to be innovative programs.[3] "Model" programs and "pilot" projects, whatever they be called, are, by their very nature, experimental. During this process of trial and error we must be willing to take some risks, and we must be prepared to experience failure from time to time.

The Northwest Environmental Education Center asks, therefore, that it remain as autonomous as possible during these next few years in order to create and shape a program that will allow us, as citizens, to respond more sensitively to our world and to each other.

D. What Will Happen if Support is not Available for Programs of Environmental Education?

The difference in the quality of the final program and the amount of time it takes to implement it are influenced heavily by funding or the lack of it.

Can we afford to wait? We have some idea of how much time goes by between the funding of a project and its realization. We can also guess that it will be a number of years before we have a generation of people who have gone through a K-12 program.

If any doubts still exist about the role that our educational institutions can play in giving us the information and guidance we need to respond more sensitively to our natural resources, we have only to look around us. Costeau tells us that we have destroyed 40% of all marine life within the past 20 years. In the fall of 1970, the people of Portland and Seattle suffered a temperature inversion that kept the sick and elderly indoors. Do ignorance or indifference or misinformation have anything at all to do with these problems? Do our traditions work against us, as Lynn White would have us believe.[4] If they do, the place of schools in solving these problems is significant.

We do not know, for example, how to weigh the value of one option against another. We can not agree, in any general way, about what is important. We try to balance economic needs against human needs, such as clean air and water, and to date find them in conflict. Are they? What can technology offer us? How can our living habits change without sacrificing the economic viability of the country, a viability without which we could not pay for the cost of "cleaning up"?

We also tend to accept the way things are as inevitable and unalterable, thus denying the tremendous control we can exercise over our destinies. This philosophy, which has its historical roots in 18th century Europe, still dominates Western thought. We accept the status quo, such as air pollution, and exert most of our energies trying to adapt to it.

We suffer from ignorance, and continue to make judgments based on that ignorance. We have never been trained to make long-range plans, nor do we have the skills to draw relationships between one set of data and another. By divorcing disciplines from each other in setting up a convenient structure for learning, our educational system has worked against our coming to grips with the basis of all learning, namely, man's interaction with his environment.

E. What Are the Plans for the Creation and Implementation of Environmental Education in the Northwest Region of Washington State?

Before an outline of the regional plan is presented, it may be useful to understand what kinds of money and support have been generated because of the state appropriation to the Northwest Environmental Education Center in February 1970. Endorsement by the state legislature and by the State Office of Public Instruction gave strength to the message that the Center had been trying to convey to federal and private funding agencies for a number of years.

In July 1970, the National Center for Educational Research and Development, Department of Health, Education, and Welfare, awarded the Northwest Environmental Education Center with a grant totalling $67,000 to develop and field test environmental education programs on a district level during the academic year 1970-1971. Only two such proposals out of a total of 60 were funded this year across the United States by this Center. Since the announcement of the award, H.E.W. officials have informed NEEC that funding of its proposal was based primarily on the long history of involvement and commitment on the part of school districts within the region, the widespread support from local industry, and the state appropriation.

A total of $30,000 from local foundations and industry has been donated to the Center since Spring 1970, to develop interim facilities, such as a water system, at the 600-acre site on Whidbey Island, and to provide scholarships for some initial in-service courses. Many of the school districts within the region again voted this Spring to continue to support the Center, thus reaffirming their confidence in the direction the Center was taking.

Major interest around the country in the activities of the Northwest Environmental Education Center is increasing. Description of the Center's philosophy and plans in a number of national publications has brought attention to Washington State as a national leader in environmental education.

What, then, are the plans for a regional program of environmental education that seem to excite such interest locally and nationally? The plan itself grew out of the simple need to reach a student and faculty population of 125,000. Faced with the logistic impossibility of running these numbers through the Whidbey Island site in any given year, the Center, with the help of a task force representing the educational institutions within the region, established as its highest priority a staff improvement and development program which could provide school districts with a hierarchy of environmental education specialists. These specialists, in turn, could establish similar programs on the district level. In this way large numbers of teachers and ultimately greater numbers of students will be reached.[5] Identification of the Whidbey Island site by the task force as a staff improvement and development center that would serve the entire region provided the direction for what constitutes a major portion of the program budget and capital budget requests. Pilot programs at the site will concern themselves primarily with the concepts and strategies appropriate for a program of environmental education and with perception training. It is anticipated that by the end of the first biennium (June 1973) that every district and most schools within each district will have such a specialist on its staff, and that 7% of the student population within the region will have participated in the learning activities on Whidbey Island. By the end of six years (1977), every student within the region will have had the opportunity to spend a week at the site, and by the end of his public school career, at least 2 opportunities will have been available to him.

The goal of the Center to develop a program of environmental education that is both interdisciplinary and field-oriented has attracted national attention and support. To achieve this goal the Center intends to use the northwest region of the state as its learning laboratory for the study of ecology and for the investigation of particular environmental problems, and in this way bring relevancy to the curriculum.[6] Other sites throughout the region which are carrying on supportive activities, such as the Shannon Point Marine Center, have been identified and will be used for special studies by both teachers and students.

Wilderness areas, such as the upper reaches of Sauk Mountain in the Skagit Valley, are also crucial to a field-oriented program, and will increase "time perception". Coming to grips with environmental problems as they exist now requires "a broad time-past spectrum", which, in turn, produces a "broadened time-future spectrum".[7] In other words, we need to maintain the wilderness quality of such areas so that we are in a position to judge where we were, where we are, and where we could go in the years to come.

A region-wide program of staff improvement and development suggested some possibilities for a cooperative effort on the part of all educational institutions within the region, i.e., the common schools, the community colleges, and Western Washington State College. Although such a venture among institutions is not unprecedented, it is an unusual way to begin a program. The location of the Northwest Environmental Education Center on the campus of Western Washington State College was a distinct advantage. Consultation with its faculty and with that of Huxley College of Environmental Studies helped to bridge the gap between the common schools and the higher institutions. The composition of the Board of Directors of the Center has also changed over the past two years to include a representative from the community colleges. It is unquestionable that the strength of the Center lies in its ability to draw upon the resources of these higher institutions and to use this input in coordinating a public school program.

A model for a closer working relationship between schools and their communities is also proposed within this document to demonstrate how schools and local governments can work together to achieve a common goal, namely planning for a quality environment.

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[1]Winn, I. "The Education in Environmental Education." Environmental Education, Summer 1970.

[2]Institution for Effective Management of the Environment. Washington, D. C.: National Academy of Sciences, January 1970.

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[4]White, Jr., "The Historical Roots of our Ecological Crisis," The Environmental Handbook, G. deBell, ed. New York: Ballantine Books, Inc., 1970.

[5]"Statement of Standards for Preparation of School Professional Personnel Leading to Certification" (The Fourth Draft), April 1968.

[6]"An Assessment of Educational Needs for Students in Washington State," Phase II. Prepared for the Washington State Title III ESEA Advisory Council, January 1970.

[7]"Washington State Plan for Environmental Education," Second Draft, State Office of Public Instruction, September 11, 1970.

11. ENVIORNMENTAL EDUCATION ON THE COMMUNITY LEVEL

In July 1970, the U. S. Office of Education funded the Northwest Environmental Education Center a total of $67,000 to develop and field test a pilot program of environmental education in the Sedro Woolley school district during the academic year 1970-71.

This grant is important for a number of reasons:

--Only two environmental educational proposals in the United States were funded this fiscal year by the National Center for Educational Research and Development, Department of Health, Education and Welfare. The Sedro Woolley project was one of these two.

--The monies will support the development of a district model that will facilitate the implementation of programs throughout the region and the state.

--This funding is indicative of the leadership position Washington State is assuming in developing a state-wide program of environmental education.

The proposal was chosen over 60 others primarily because of the long history of local support on the district level to the Northwest Environmental Education Center, the commitment by the state to the Northwest Environmental Education Center in February 1970 ($50,000), the concern of local industry ($30,000), and the dramatic philosophical position taken by the Sedro Woolley School Board in December 1969, to reorganize their curriculum in such a manner that environmental issues would become a part of all learning activities. According to the Board, a graduate of the Sedro Woolley Schools should:

1) Be aware of the danger inherent in the population explosion.
2) Be aware of man's dependence on nature for all the necessities for physical survival, and be aware that man is the only creature capable of consciously altering his environment.
3) Value a quality environment over the immediate possession of material goods and be aware that the production of material goods is dependent on the quality of the environment.
4) Be aware that an esthetic environment is essential to man's social and mental well being.
5) Accept personal and individual responsibility for maintaining and restoring quality in his environment.
6) Be aware of legal and political avenues through which these objectives can be attained.

Funds were appropriated for the following major categories:

--The synthesizing of environmental education concepts.

--The design of a staff improvement and development program in environmental education.

--The development of learning packages for grades 3, 6, 9, and 12.

--The implementation and testing of pilot programs on two grade levels (6 and 12).

The implications of this program regionally and state-wide are tremendous. The curriculum which evolves, the way in which teachers are trained, and the effect of the program on behavioral objectives will set a pace and a model for other school districts to build upon.

A. Staff Improvement and Development.

Twenty teachers from the Sedro Wooley School District, and five from other districts within the region, will receive six hours of course credit while enrolled in an environmental education program designed by Huxley College of Environmental Studies, located on the campus of Western Washington State College. During the Fall quarter these teachers, who will represent a number of grade levels and a cross-section of disciplines, will examine environmental education concepts, testing for validity and completeness. They will receive training by personnel from the State Office of Public Instruction in a variety of innovative teaching strategies, e.g., Taba, RUPS, Interpersonal Communications, and will examine the appropriateness of using these techniques in a program of environmental education.

An introduction of the teacher to the core of courses which Huxley College will be offering this year to undergraduates is presently being considered. The course titles are:
--Ecological Awareness.
--Introduction to Environmental Science.
--Man, Evolution, and Ecology.
--Man, Social Environment and Social Values.
--Environmental Law and Political Action.
During the Winter and Spring Quarters the teachers will develop learning packages for their particular grade level or discipline.

B. Curriculum Development.

Learning packages will be developed by the Sedro Wooley teachers with assistance from their students, for grades 3, 6, 9, and 12. Students will receive nominal stipends and, in some cases, credit for their work on any curriculum writing teams that are formed and will work with teachers to determine the most appropriate program for their grade level. They will be a part of any group which comes together to develop materials or to plan field-trip experiences.

The gathering of material and the writing of curriculum are time-consuming tasks. To facilitate this work, each teacher will be released for a total of 10 days during the school year. Substitute pay is built into the grant, and travel expenses for the teacher are provided, so that he can attend any meetings that are important to him or meet with any individuals who can help him with his project. Resource people through the Puget Sound region who can assist with individual efforts are being identified and will be "on call" to teachers throughout the year.

C. Implementation.

1. Field-oriented programs involving a total of 450 students will be conducted on two grade levels, 6 and 12, during the year. These particular grade levels were chosen because a sixth grade outdoor education program is already being field-tested by some of the Sedro Woolley faculty, and because it seemed important to offer a program to seniors before they were graduated. As learning packages develop for grades 3 and 9, during Winter and Spring Quarters, they too will be tested on those levels.

Formal implementation of the completed learning packages will begin in September 1971 at Sedro Woolley, and will also be available at that time for use by the other school districts within the region and the state. (An Environmental Education Institute to be held at Huxley College of Environmental Studies during the summer of 1971 will facilitate dissemination of them.)

2. Two phases (II and III) of a proposed plan by the Northwest Environmental Education Center is presently under consideration by private funding sources which will provide a foundation for the field-oriented experiences. (Funding for the initial phase of the study was made possible by the state appropriation to the Center.) This first phase is devoted to fact-gathering and analysis of the five-county region. All local and state agencies which can provide vital statistics about the region have been contacted, and this information is presently being translated into a document that will increase the teacher's understanding of the natural landscape(physiography, glaciology, biogeography) and of the region's historical geography. This information will provide the teacher with an answer to the question: How has man utilized the natural landscape and natural resources of the five-county region in the past?

Phase II will be concerned with the selection of sites which best achieve, through field-study examination, the philosophical objectives for environmental education which have been adopted by the Sedro Woolley School District. They will be developed around a problem-oriented theme, e.g., air, land, water, people, and noise pollution, and will be selected to illustrate the interdisciplinary nature of environmental education. For example, sites selected for the examination of air pollution may be studied equally well from the points of view of chemistry, biology, economics, history, sociology, and medicine. There will be an examination of contrasting sites, e.g., land-use patterns around the margins of a city before encroachment of suburbia has begun and after it is accomplished. Sites will be selected which have a wealth of historic, economic, sociological, and physical data to provide perspective on where we were and where we are today. An environmental survey along the highway route to be taken to each site will be provided so that the teacher can more efficiently use the time spent in transit.

Phase III will concern itself with implementation of the field-study model at the Sedro Woolley District. During the Spring of 1971, the project director will work closely with the teachers, explaining the various methods and tools to be used in the selection of field-study sites, and helping them with the analysis of the interdisciplinary nature of each selected site. Phase IV, to be conducted in the Summer of 1971, will be an extension of the present study, and will appraise possible site locations close to the other districts within the region. The inventory will be published as a guide to teachers and will take as its basic format an analysis of what problems can be studied in what locations. (This final phase will be funded by state money and is budgeted under ENVIRONMENTAL EDUCATION ON THE REGIONAL LEVEL.)

D. Dissemination.

Introduction and orientation of the model district program to school administration throughout the model region and throughout other regions in the state will be facilitated by a nine-man team from the Sedro Woolley School District. This team will travel throughout the region and the state, presenting

visual documentation of the experiences, and helping schools to set up similar programs. A profile of this team will include: School Superintendent, School Board representative, School Principal, Teacher, Student, PTA representative, and 3 local community leaders, e.g., the Mayor, the President of the Chamber of Commerce.

School personnel from around the region and the state will have an open invitation to visit the district and to observe the field testing of new programs.

Education of the Sedro Woolley community to the new program will be an ongoing activity during the next few years. Adult education programs dealing with environmental problems that are of concern to the community will be provided by the Northwest Environmental Education Center.

E. Budget.

	July 1971 -June 1972	July 1972 -June 1973
1. Development and field testing of learning packages for grades 1, 4, 7, and 10. Twenty teachers will be taking five hours of credit per quarter for three quarters at $15 per credit hour.	$4,500	
2. Development and field testing of learning packages for grades 2, 5, 8, 11. Twenty teachers will be taking five hours of credit per quarter for three quarters at $15 per credit hour.		$4,500
3. Five-out-of-county field trips for 1,000 students from grades 1,4,7, and 10 (average class size=250) at $5.50/student/day.	$27,500	
4. Five out-of-county field trips for 1,000 students from grades 2,5,8, and 11 at $5.50/student/day.		$27,500
5. Ten field trip days/teacher for 20 teachers per year at $10 per day. This stipend will cover such items as food, lodging, travel, registration fees for conferences.	$2,000	$2,000
6. Substitute pay for two hundred teacher days at $27.50 per day.	$5,500	$5,500
7. Materials	$3,000	$3,000
8. Publication of learning packages and other materials.	$4,000	$4,000
9. Training in the use of mobile learning laboratories; fifteen instructor days at $75.00/ day.	$1,125	$1,125
10. Introduction and orientation of the model district program to school administration throughout the region and the state by a nine-man team from the Sedro Woolley School District: School Superintendent School Board Representative School Principal Teacher Student PTA Representative 3 Community Leaders	$30,000	$30,000
11. Visitation by school personnel to the model district program to observe the field testing of new program.	----	----
	$77,625	$77,625

REFERENCE

[1]Marine, Gene. "You Go Through Sedro Woolley," America The Raped. New York: Avon Books, 1970.

III. ENVIRONMENTAL EDUCATION ON THE COUNTY LEVEL

The Northwest Environmental Education Center proposes that a two-phase study be undertaken by the Whatcom County Park Board and schools within Intermediate School District #108 to develop a county-wide model for the implementation of environmental education in the schools.

A. Phase I: An Environmental Analysis of Whatcom County.

Planning for wise use of open spaces and creation of a recreational and educational plan within a county by local government is becoming a critical priority. A comparable opportunity in the future may not present itself as expanding population and industrial growth move on to remaining available land. The objectives of such an analysis are essentially those of the proposed National Land Use Policy which directs state and local governments to inventory their resources, project their needs, and to plan for development of land in a manner that maximizes the quality of the environment. 1,2,3,4

The most important questions to be answered by the environmental analysis are:

1. What is the present population distribution throughout the county? What increases in population can be anticipated based on past growth patterns?
2. What lands are now in use and for what purposes, e.g., housing, highways, agriculture, industry?
3. What open spaces are unique, scarce, or vulnerable, ecologically, and culturally, or educationally?
4. What open spaces are intrinsically suitable for preservation as open spaces?
5. What recreational and educational uses should be made of available open spaces?

Some tentative answers to these questions have already been reached by studies undertaken by volunteers. A more thorough and intensive study, however, is recommended so that sociological and economic factors can be considered in decision-making.

Phase II: Participation by Whatcom County Schools in the Environmental Analysis and Use of the Findings for Programs of Environmental Education.

The relevancy of environmental education programs based on the examination of real and immediate problems can not be understated. The environmental analysis would be programmed in such a way that teachers and students could participate actively in the investigations and use the findings for course improvement and change. For example: a current events class might be interested in assessing the economic ramifications of two different zoning plans, and develop a unit of study around this problem. A language arts teacher might attempt to study with his class the effect of the arrangement of houses on communication between neighbors; an elementary school teacher might be interested in studying with his class the impact of people on the flora and fauna within a park, or on the

school grounds.[5]

Some of the questions to be answered by school participation in the environmental analysis are:

1. How can existing recreational areas be used for programs of environmental education?
2. How can this study provide ongoing support and substance to environmental education programs within the county schools?
3. To what degree, if any, do recreational and educational uses of parks conflict?
4. How can future land purchases accommodate both public and school needs?

Perhaps of greatest importance is the environmental awareness that can grow out of participation in the study and out of use of the data in programs of environmental education. The following list is incomplete, and serves only as a guide to what a program of environmental education could accomplish if information were available to the schools.

1. An awareness of the human need for recreation and for aesthetic experiences to maintain mental health.
2. An awareness of how pollution of the air and water are effected by and effect, in turn, the vitality of the land.
3. An awareness of the effects of water and air pollution on physical health.
4. An awareness of the need to plan for wise use of land in order to accommodate a multitude of needs, e.g., food, schools, businesses.
5. An awareness of the dangers inherent in unchecked population growth.
6. An awareness that the solutions to environmental problems become increasingly complicated as information about the problems becomes available.
7. An awareness that man's behavior toward his environment must become more responsible.
8. An awareness that any system has a load limit.
9. An awareness that change of one kind within a system may affect the balance of life within the rest of the system.

These findings will not only provide local government with a direction for preserving the character and natural beauty of Whatcom county and for the planning of adequate recreational and educational spaces, but will fill the need of the county schools for a program of relevant environmental education. This two-phase study will furthermore provide a model for a more close working relationship between the community and the school.

B. Procedure:

1. An Ecological Study of Whatcom County.

Drawing upon the expertise of local county residents and school personnel, the Whatcom County Park Board will gather and interpret the following data for use in the identification of open spaces and in the creation of a recreational and educational plan.

Climate:
Temperatures, rainfall, snowfall, fog, humidity, air pollution, hours of daylight.

Geology:
Features of unique, scientific or educational value; valuable mineral deposits.

Physiography:
Relief (elevations above sea level), slope, rugged and mountainous terrain.

Water:
Tidal action, acquifers, acquifer recharge areas, surface water (streams, rivers, bays, lakes, sound), flood plains, water pollution.

Vegetation:
Forest (types), marshes (types), timberline.

Wildlife:
Aquatic (salt-water, fresh-water), terrestial, aviary.

Unique and Specific Recreational and Educational Resources:

Natural: Waterfalls, rapids, sand beaches, pebble beaches, natural springs, exceptional islands, peninsulas, points, chasms, exceptional marsh lands, caves, glaciers, significant peaks, wild flowers, scenic corridors, etc.

Cultural: Marinas, boat ramps, camp grounds, dams, fish ways, locks, lighthouses, fish hatcheries, mill ponds, reservoirs, skating rinks, wildlife preserves, ski areas, nature trails, picnic areas, golf courses, youth camps, church camps, day camps, historic buildings, Indian cultural and historic sites, historic churches and cemeteries, environmental education sites, etc.

2. A Social and Economic Analysis of Whatcom County.
Evaluation of the impact of Whatcom county residents on their environment will provide data for projecting future needs. Such an evaluation will include:
   a. A demographic study of population increase and distribution.
   b. An analysis of present land use.
   c. A survey of county residents to assess their environmental needs and aspirations, and willingness to assume both moral and financial responsibility to meet these needs.

3. A Plan for the Acquisition and Use of Open Spaces for Recreational and Educational Purposes.
There are 3 phases to this plan.
   a. Identification of open spaces within the county which are of ecological, cultural, recreational, or educational value.
   b. Design of a land use plan based on the ecological study and the social and economic analysis.

C. Developed Outdoor Recreation and Education Land:
These lands will require a degree of development to realize the uses which have been assigned to it. Included in this category will be all the existing and proposed county parks as well as national, state and city parks (as delineated by the respective agencies), but more specifically areas will be recommended for the following recreation and education pursuits.

Water-Oriented Recreation and Education:
Bathing beaches, swimming areas, boat ramps, marinas, fishing access points, and the like.

Winter-Oriented Recreation and Education:
Skiing, tobogganing, sledding, ice skating, and the like.

Automotive and Travel-Oriented Recreation and Education:
Camp grounds, scenic highways, approach corridor to North Cascades National Park, highway rest stops, scenic points (roadway), service points (food, gas, lodging).

Movement-Oriented Recreation and Education:
Pedestrian (regional trails), equestrian (regional trails), mechanical (regional trails), motor bikes, snowmobile, etc.

Special Recreation and Education:
Archery ranges, rifle and pistol ranges, golf courses, sports center, arboretums, nature study and interpretive centers, historic, geographic points of interest.

Undeveloped Recreation and Education Lands:
These lands require no development to serve the uses for which they are planned: mountain ranges, salt-water beaches, creek, stream and river edges, marsh-lands, forest lands.

Natural Environment Land (Open Space):
Though this land may serve in a recreation and education capacity, it is not necessary that it do so in order to serve its primary function, preservation of the esthetic and ecological character of Whatcom County. Farming, well-managed logging operation, flood control measures, utility easements and other uses may occur on these lands without impairing the environmental value.

Indoor Recreation and Education Facilities:
This plan will reflect the desires of Whatcom County residents for indoor facilities, types of indoor facilities, proposed location of them, and a priority for development of them will be included in the document.

c. A priority of action plan will spell out priorities for acquisition of land. An "Urgency of Action" rating will be assigned to all lands identified as potential recreational or educational areas or areas which should be preserved because of their scarcity, uniqueness, etc.

C. Implementation.

1. This study will examine means of acquiring needed control of the land such as direct purchase, scenic easements, recreation easements, planned sanitary land filling, use of utility corridors, transportation corridors, zoning, etc.
2. Methods will be explored of acquiring and developing open spaces as recreational or educational areas through working with local, county, state, and federal agencies and with the private sector.
3. A program of adult education about the study leading to active citizen participation in it will be initiated. A Conservation Trust may be established to receive gifts of land and funds, as well as a Citizens Conservation Commission composed of professionals and interested lay people.
4. Participation in the study by the Whatcom County schools represented in Intermediate District #108 and use by them of the data to develop a program of environmental education will follow a procedure similar to the one outlined in ENVIRONMENTAL EDUCATION ON THE COMMUNITY LEVEL.

REFERENCES

[1] U.S. Department of the Interior. Federal Water Pollution Control Administration. Research Needs, National Technical Advisory Committee on Water Quality Criteria. Washington, D.C. : GPO, 1968.

[2] Regulation 1 and Regulation 2 of the Northwest Air Pollution Authority. Mt. Vernon: North West Air Pollution Authority, January 8, 1969.

[3] Ehrenfeld, D.W. "Factors That Threaten Species." Biological Conservation. New York: Holt, Rinehart & Winston, Inc. , 1970.

[4] "How Our Cities Meet Their Water Needs," "Flood Plain Safeguards: A Community Concern," "The Constant Fight Against Pollution," "Land Management for City Water." Outdoors U.S.A.: The Yearbook of Agriculture 1967. Washington, D.S.:GPO, 1967.

[5] Marsh, N.F. Outdoor Education on Your School Grounds. Sacramento: Office of Conservation Education, The Resources Agency, State of California, May 1968.

[6] The Public's View of Environmental Problems in the State of Washington. Louis Harris & Associates, Inc., March 1970.

D. Budget	July 1971-June 1972	July 1972-June 1973
1. Ecological study.*	$6,500	
2. Social and economic analysis of Whatcom County.	$2,500	
3. Design of a plan for the acquisition and use of open spaces for recreational and educational purposes.		
A. Identification of open spaces which are ecological, cultural, recreational, and/or educational in value.		$4,000
B. Design of a land use plan based on ecological, social and economic analyses.		$5,000
C. A priority of action plan for acquisition of land for recreational and educational uses.		$2,300
4. Implementation study.		$2,000
	$9,000	$13,300

*All data will be gathered and interpreted both through written analysis and graphic overlay illustrations.

IV. ENVIRONMENTAL EDUCATION ON THE REGIONAL LEVEL?

A. How Can a Program of Environmental Education be Accomplished on the Regional Level?

1. A Cadre System of Staff Improvement and Development.

Any public school plan for implementation of environmental education on a regional level within a state must grow out of three major considerations: What are the student and faculty populations within the region? What resources are available within the region to support such a program? Are higher institutions within the region ready to work with the common schools as a staff improvement and development program in environmental education evolves?

Although the latter two considerations determine to a large extent the kind of program that is possible, it is the answer to the first question that will concern any region initially and that will determine its academic plan. The Northwest region of Washington State, for example, has a student population of approximately 120,000, and a faculty population of 4,500.

What are the logistics of reaching this large common school population? A task force committee formed to assist the Northwest Environmental Education Center with this question concluded that the present school population would require 21 more sites similar to the one located on Whidbey Island, which is under the administration of the Northwest Environmental Education Center. In other words, the 600-acre natural area could only hope to serve roughly 4½% of the students and teachers within the region in any one year. Given the critical need for a regional program of environmental education and the impossibility of acquiring 100,000 acres of undeveloped land for similar sites, the Northwest Environmental Education Center, with the help of the task force, came to the following conclusions: In order to reach the 120,000 student population, the teachers must receive a special program of education that will prepare them to work within an environmental frame of reference. In order to reach the 4,500 teachers within the region, 15-20% of them must receive an intensive program of study so that they are equipped to carry on similar staff improvement and development programs within their districts for the remaining teachers.

A plan for use of the site on Whidbey Island as a regional center for a staff improvement and development program constitutes a major portion of this document. The program proposed for the site will allow every teacher within the region to return for some kind of training every four years; it would allow every student within the region to have two 5-day experiences at the site during their 12 years within the public school system.

As a result of participating in these activities, teachers will be able to perform on one of three levels of competency which will provide the districts within the region with a hierarchy of environmental education capabilities. What, in general terms, will the teacher be able to do? He will be extraordinarily perceptive of and sensitive to environmental concepts and issues: he will be skilled in the observation, analysis, and interpretation of what he sees around him from a number of points of view; he will be able to recognize relationships

which exist within systems and between systems, and will, through training in a variety of new learning strategies, be able to lead students to a similar level of awareness. He will be skilled in the development of curriculum models which have behavioral foci and will be competent to conduct similar programs on the district level.

This level of competency is a goal, not a fact of life. If the program of staff improvement and development is a sound one, however, environmental education can be operational region-wide.

A CADRE SYSTEM FOR A REGIONAL STAFF IMPROVEMENT AND DEVELOPMENT PROGRAM

AGENCY	Whidbey Island Site (NEEC)	Sedro Woolley District Model	Silverton-Waldheim Outdoor Education Laboratory	Huxley (WWSC)	Department of Continuing Studies. (WWSC)
TYPE OF PROGRAM	In-service (Pre-service by 1973)	Pre-service[2] In-service	Pre-service In-service	Pre-service In-service	In-service
INITIATION OF PROGRAM	Fall 1971	Fall 1970	Summer 1969	Fall 1970	Fall 1969
SPECIAL EMPHASIS	3 levels of competency: District specialist School specialist Short-term trainee	Curriculum development Field testing of model units	Outdoor education	Core courses e.g., Ecological Awareness; Man, Evolution, and Ecology; Environmental Law and Political Action.	1. Natural History Institute 2. Institute in Rural[4] Ecology 3. Institute in Urban Ecology[4] 4. Practicum[4]
NUMBER OF TEACHERS PER YEAR	700[1]	25	50	20[3]	500[5]

[1]This number does not mean that all teachers will be equally competent. Approximately 100 of the 700 will be either district or school specialists.

[2]It is anticipated that students concentrating in environmental studies at Huxley College will be able to intern at the Sedro Woolley school district by the Fall of 1971.

[3]One-third (20 out of 60) of Huxley students have enrolled this fall in an environmental education seminar.

[4]Presently under consideration.

[5]A total of 500 teachers within the region enrolled in these courses and in others offered on the district level during the year 1969-1970. It is expected that this number will remain the same for this year until the Whidbey program is operational.

2. Interinstitutional Commitment.

Huxley College of Environmental Studies, located on the campus of Western Washington State College, is the only college within the state with a curriculum geared exclusively to environmental studies. Its formal program began in September 1970 and includes a seminar in environmental education for prospective teachers. A Masters program in Environmental Studies will eventually be offered by Huxley after its undergraduate program solidifies. Huxley College is also providing staff for the training of teachers within the Sedro Woolley school district, the model for the community level program.

Four community colleges within this region, Skagit Valley, Shoreline, Edmonds, and Everett, are in the process of designing courses for the in-service training of public school teachers in environmental education. Two such courses, an Institute in Urban Ecology and an Institute in Rural Ecology, are being developed by Shoreline Community College and Skagit Valley College, respectively. A Natural History Institute has been offered by the Everett Community College for the past two summers. Refinement of these courses, development of others and coordination of them with Huxley College, will be part of the on-going contribution of the Department of Continuing Studies. What seem to be most important about the development of these courses is the fact that departments within institutions and educational institutions of all levels are beginning to work together to provide the teacher with this new orientation.

It is proposed that representatives of Western Washington State College, Huxley College of Environmental Studies, the four community colleges, and the common schools come together to examine the implication of a region-wide program and t establish guidelines for implementation of these programs. The following questions are a sampling of the issues which could be dealt with by such a board---

What constitutes a sound program of environmental education, and what do teachers need to be competent in this area?
What courses can community colleges offer to prepare a student for admission to Huxley College of Environmental Studies?
What in-service or fifth-year courses could community colleges offer? Is this an appropriate task for community colleges?
What environmental education courses should be required of a student majoring in elementary education? What course work would constitute a major or minor in environmental studies for purposes of teaching on the secondary level?
What kinds of programs can be offered by the school district and the intermediate districts for the retraining of teachers?
How can mobile learning classrooms and laboratories best be used to implement field-oriented programs?
How can an in-depth inventory of the social, biological and physical aspects of the region be used by all of the involved institutions?
What kind of lay research can go on at satellite centers?

How can lay people assist the schools in development and implementation of programs?
What kind of additional community education is needed, and which agencies can develop programs to meet these needs?
What kinds of exchange programs can be established between the Northwest Environmental Education Center and other environmental education centers across the state? Between four-year institutions and community colleges across the state? Between school districts within the region?

An eighteen-member board representing the involved institutions could have the following composition:

Northwest Environmental Education Center	2
Huxley College	2
Administration, WWSC	1
Shoreline Community College	1
Skagit Valley Community College	1
Everett Community College	1
Edmonds Community College	1
Seattle Community College	1
Intermediate School District 108	1
Intermediate School District 109	1
Representatives from the common schools of:	
King County	1
Snohomish County	1
Skagit County	1
San Juan County	1
Island County	1
Whatcom County	1

The Northwest Environmental Education Center has submitted a proposal to the U.S. Office of Education which will bring these institutions within the region together for a period of days to discuss the nature of training in environmental education. Representatives from other regions of the state and from other states (Oregon, Idaho, Alaska) and Provinces (British Columbia, Alberta) as well as community representatives from our own region will be invited to participate in the proceedings. Although this workshop will not in any way provide all of the answers for what environmental education can be and how it can be implemented, it will bring people and institutions into communication and lay a foundation for future cooperative efforts.

B. How Can the Northwest Region Be Used as a Primary Resource for Environmental Education?

1. Overview.

The Northwest region, as it is defined and served by the Center, comprises Whatcom, Skagit, Snohomish, San Juan, and Island Counties, as well as northern King County. As such, it can be divided into three major natural regions each of which is highly distinctive from the point of view of educators, as well as of most other persons.*

* This overview of the Northwest region is provided by Dr. Will Thompson, formerly of the Earth Sciences Laboratory, U.S. Army, Natick, Massachusetts.

The San Juan Islands, Adjacent Waters, and Related Mainland Shores.

The San Juan Islands are distinct from nearby islands to the south and east, and from the mainland, with respect to their bedrock structure, climate, vegetation, and the intimate pattern of land and sea which prevails. The Anacortes peninsula, the Chuckanut shore south of Bellingham, and southern Lummi Island, each have numerous bedrock outcrops which relate them to the San Juans, whereas Guemas, Whidbey, and Camano Islands are glacial drift terrain, like large areas on the mainland. None of those islands are very different climatically from the relatively dry San Juans.

An educator discussing the San Juan region has several interesting environments to draw on. The faculty and publications of the Friday Harbor Marine Biological Station are the principal source of information available on the marine aspects of the area.

Adjacent Extensive Inland Waters, comprising the Straits of Georgia and Juan de Fuca. These are broad areas of shallow sea, floored for the most part by glacial drift and by silts and muds deposited by wave action and tidal currents. In depth and biota, they resemble continental shelf surfaces which are important at similar latitudes elsewhere in the northern hemisphere such as the Gulf of Maine, Gulf of St. Lawrence, and North Sea. Study of the broad Straits requires a seaworthy craft and fishing or oceanographic gear.

Channels Among the Islands are intricate, irregular, and a wonderful place for carefully handled small craft. Strong tides are a problem for under-powered craft, but are also a phenomenon of great interest to the students served by the Center. Tide tables can be made available to students studying the San Juans, together with explanations of the forces involved and their manifestations on various coasts.

Movements of schooling fish, sea birds, seals, porpoises, and killer whales should be observed, as well as the techniques and movements of various kinds of fishing craft. Salmon runs through the San Juans are mostly to the Fraser and other Canadian rivers, but are extensively exploited by U. S. craft. The treaty agreement under which this is done, and its effect, can be studied. Canneries and fish buyers served by the fishing fleet can be visited when fish are being delivered there.

Shores. The shores of the San Juan Islands are rocky in general, resembling those of Maine. Beaches are largely confined to coves and harbors. Reefs are common, those which lie below low tide being marked by kelp beds.

Wave erosion of headlands, the longshore drift of identifiable rock fragments from each, their progressive reduction to rounded pebbles, and other geomorphic phenomena should be studied. Tidal ranges are large, exposing broad areas of reef and beach at certain times during the month. The littoral biota of the islands is not yet greatly affected by human activities, and remains varied and abundant.

Venturesome students and teachers may want to use diving gear to investigate underwater environments.

The Land Surfaces.

Bedrock Structure. Bedrock in the San Juans is prominent in the landscape and is of varied age, composition, and structure. Patterns formed by warped and folded sedimentary beds, differently eroded according to their durability, are especially well seen on Stuart and Sucia Islands. The San Juans comprise a broad uplift, of much less magnitude than those of major Northwest ranges, which extends a well-defined southeast-northwest internal structural pattern characteristic of the Cascades across the Puget Sound-Georgia Strait lowland to Vancouver Island.

The detailed geology of the islands seems to be available only as theses and other unpublished material in libraries and geologic files. It will be profitable to summarize them for teaching purposes.

Soils are thin in most parts of the islands. Glacial drift is deep and widespread only on Lopez and southern San Juan Islands.

Climate. The rainfall of the San Juans is very modest for the Puget Sound region, generally between 20 and 30 inches per year, mostly in autumn and winter. Explanation of this in terms of the general atmospheric circulation, sea temperatures, and the effect of mountains will be of interest. Summer drouth is evident by the California brown of grasslands and grassy forest openings at that season. The extent of cool water among the islands not only stabilizes summer air masses, reducing precipitation at that time, but also reduces the frequency of winter frost. Mt. Constitution (2,000') is the only relief on the islands large enough to produce much increase in precipitation.

Vegetation. The Garry oak and summer-brown grasslands, due to relatively dry climate and thin soils, are the northernmost outliers of Californian subtropical formations. On Puget Sound shores which have a less rigorous summer drouth, these formations are represented by the madrona, a tree related to California chaparral species, which is also important on the islands.

Some areas in the San Juans which have sufficient soil have supported Douglas firs and other conifers of sufficient size for logging, but timber has generally not been as gigantic as elsewhere. On thin soils conifers and other trees are of modest size. In general, vegetative interest in the San Juans stems from contrast, due to both climate and terrain, with more lavish mainland growth. Educational values gained will be greatest if students are familiar with both the San Juan and mainland environments.

The Non-Alpine Mainland and Drift-Terrain Islands.

Between Puget Sound and its extensions northward to Georgia Strait, on the one hand, and the higher northern Cascade Mountains, on the other, lies a complex area, including Whidbey and Camano Islands, of glacial drift

terrain, deltas, floodplains, foothills, and lesser mountains. The outer mountain zone is included here because it is being managed for timber production rather than wilderness recreational values and thus relates closely to the population buildup which characterizes the non-alpine mainland region.

Bedrock Foothills and Lesser Mountains. This terrain is essentially part of the northern Cascades, though it reaches the sea along the Chuckanut shore and extends far into lowland zones elsewhere. The deep erosional embayment of the western front of the northern Cascades distinguishes it from many other ranges which have linear, fault-line fronts.Compared to the high Cascades, the lesser mountains have a considerably higher proportion of sedimentary and low-grade metamorphic rock.

Glacial Drift Terrain. When the last Pleistocene ice withdrew from the lowlands of the Northwest region of Washington State, the surface exposed was at first entirely of glacial drift, comprising hills mostly of only a few hundred feet relief, together with some plains built up by drift-laden meltwaters. The drift is made up of boulders, gravel, sand, silt, and clay, irregularly sorted or unsorted, and still only slightly weathered even on the surface.

Considerable work has been done recently in the region by USGS and other glacial geologists utilizing carbon 13 dating. Their publications are a valuable educational resourses, but the picture is still not very complete, particularly along the mountain margins where Cascade and Canadian ice reached maxima at different times. The unravelling of that picture will be of particular interest to regional students who live in the range-margin zone.

While the first post-glacial vegetation was spreading over the raw drift, dust was abundant from nearby still-active glacial outwash surfaces. It accumulated, was held by plant stems and roots, and has become weathered to form a grey-brown podzolic forest soil which is not highly favorable to agriculture. Routine Bureau of Soils reports define its characteristics.

Farming on such ground in the Puget Sound Basin has often been of a subsistance character, carried on by people otherwise employed in logging or other industries. A geography thesis on file at the University of Washington records the establishment in the Northwest region of a community of immigrants from North Carolina, bringing the highly publicized folkways of the Appalachian region to such subsistance homesteads here.

Summer places are especially numerous along lake and river banks on such ground. Such terrain is also highly valued for suburban residence, especially where slopes provide view sites.

Lacking such occupance, and stripped long ago of virgin forest, glacial drift terrain in the region has normally developed second growth forest; has perhaps been logged again, or occasionally burned; and has then sometimes had time to develop a third forest of economic value. Forest management to increase the proportion of valuable Douglas Fir has

generally been lacking for reasons at least partly related to the tax structure. However, such relatively fast-growing, modest-sized timber is valued here largely for pulpwood production, which makes good use of alder and other species. Alder is sometimes also logged for furniture production. Bigleaf maple is another common dominant in such stands.

Current and prospective uses of glacial drift terrain in the Northwest region do not pose serious environmental problems other than those inherent in any buildup of dense urban population. However, those are serious enough. Already there are some difficulties. For example, summer-house occupance is commonly continuous around lake shores even where adjacent hills are sparsely settled, and is tending toward permanent occupance. Such isolated, originally non-economic, settlements have generally not developed sewage systems, so that lakes tend to become polluted. Samish Lake near Bellingham is a case in point.

Floodplains and Deltas. Wherever rivers descend from the Cascades in the Northwest region they have carved out or built up flood plains and created deltas. The deltas have expanded into the Sound along a broad front in Snohomish, Skagit, and Whatcom Counties so that the Anacortes Peninsula, once an island of the San Juan archipelego, is now connected with the mainland.

Tidal action in the lower rivers has deepened and broadened them to form estuaries. Purely tidal channels also cross the neck of the Anacortes Peninsula. Studies of pollution and other problems in East Coast estuaries may find application here. River steamers formerly used the estuaries to reach delta towns, but that traffic has been taken over by railroads and trucks. Students may become interested in the history of that period.

Both the deltas and the flood plains are very rich farm land. The character of their agriculture will be of interest to students. South of Seattle, and to some extent in the Northwest region, urban occupance has displaced agriculture on such land. To the extent that urban services close at hand increase agricultural values such occupance has limited justification, but it should not be permitted to occur simply because construction on level ground is cheap, particularly if a flood threat or high water table will prevent full realization of residential or industrial values. Minimum area residential zoning and other zoning devices can be studied as remedies.

Study of the actual values involved in flooding will be of interest. If farm buildings cannot be placed on glacial drift terrain, damage can still ordinarily be avoided by careful study of drainage relationships on the ground available. Good management can provide reserve forage where pastures are flooded, and can anticipate delays in planting crops on certain fields. Flood control dams are planned by the Army Engineers in King County but experience with the Cedar River reservoir there (Seattle City Light) suggests that there may be site problems. In any case, such dams sometimes create more problems than they solve. Such matters will be of direct interest to students in the areas involved.

Vegetation on the deltas and foodplains is now largely cultural. Except on gravel bars and other stream bank sites, forest remains

mostly at the option, and for the benefit of, the residents. Cottonwoods, alders, and willows are usual.

Because such ground has moisture readily available to trees even during summer drouth, so that they are less subject to fire than forest elsewhere, the virgin forest on the deltas and flood plains was presumably mostly red cedar and hemlock, the true regional climax. Because the land is valuable, the task of removing even the durable stumps of the giant red cedars is now largely complete. A particularly huge stump, tunneled to permit passage of cars, long stood by Highway 99 near Arlington on the Stillaguamish delta, but has been moved elsewhere due to construction of Route 5.

Climate in the Non-Alpine Mainland Zone. Because of their low relief, and their position relative to Puget Sound and to the rain shadow zone northeast of the Olympics, the glacial drift islands and delta margins nearest the San Juans get only about 30 inches,or even less, annual precipitation, have relatively cool summers, and only mild and intermittent frost even in midwinter. A long season of intensive growth of well-watered vegetation, together with summer drouth which imposes irrigation requirements, relate the region climatically to Mediterranian-type climate southward along the Pacific coast rather than to more continental climates east of the Cascades.

Within the deeper valleys and broad embayments of the Cascade moutain front rainfall increases sharply, summer drouth is less consistent, and there is some increase both in summer heat and in winter frost. Summer temperatures over 100° F are several times more frequent at low elevations within the mountain front than they are near the Sound.

Students acquainted with the gas laws, and with the physics of evaporation and condensation readily understand meteorological phenomena, and can observe with interest the effect of movement of moist Pacific air up the front of the Cascades. Such air is usually only somewhat modified by passage over or around the Olympics and Vancouver Island, so that it retains much moisture. Its rise along the Cascade front commonly follows broad streamlines which ignore tranverse or narrow valleys. Precipitation is in proportion to uplift, so that such valleys get almost as much rainfall as their surrounding heights. A student-maintained network of rain gauges located to show the details of the precipitation pattern would be a simple, economical, and fascination project.

The Northern Cascades. Investigations and discussions within the Interior and Agriculture Departments of the Federal Government, in Congress, among many other concerned people, including residents of the Northwest region of Washington State, throw a great deal of light on the environment of the northern Cascades in recent years. Numerous official and private publications, generally very well illustrated, are a major educational resource.

Though they are less high in absolute terms than the alpine Rockies south of the Canadian border, the Cascades have greater local relief even if their volcanic peaks are not considered, and have large local relief over a much broader area. In that respect, and with respect to their abundance of alpine glaciers, they are much more like the ranges of

British Columbia, or the European Alps.

Like the Alps, furthermore, they are readily accessible to large communities located in an agreeable and economically favorable climate. In View of the rapid and apparently inevitable urbanization of much of the Puget Sound Basin, the recreational potential of the Cascades is likely to outweigh their value as a source of water, power, and timber. Futhermore, it is not basically competitive with those resources, although optimum use of the range will require careful management of its resource potential considered as a whole.

Topography. The high Cascades are a maze of ridges which, over nearly all of their area, either reach or rise above the timberline zone. They contain a corresponding maze of very deep gorges, the head-basins of which commonly lie three or four thousand feet below timberline even next to the range divide. Local relief is generally more than a mile.

Slopes in the timberline zone, where recreational potenial is greatest, are somewhat less abrupt than on subalpine gorge walls below, generally speaking, and are also less than on sharp high-alpine peaks above. In broad areas along the range front, perhaps twenty miles in depth on the average from Mt. Baker south to Mt. Rainier, but less regular and well-defined elsewhere, high-alpine peaks are few, and meadow-crowned crests are both numerous and have great continuity, so that trails can follow the meadows, with broad views to either side, for many miles with little interruption. Because its recreational use will not be channeled into narrow zones by high peaks, management of the timberline landscape for that purpose in that zone will be less critical than in restricted scenic areas such as Cascade Pass.

The topographic crest of the Cascades in the Northwest Region must be distinguished from its hydrographic crest, since the highest peaks in its northern part lie west of the Skagit River. The grand scenery of the topographic crest is now mostly protected by the North Cascade National Park and the Glacier Peak Wilderness. Given that protection, the higher peaks are not a vulnerable environment, even though recreational use may exceed that which occurs in the Alps. However, the timberline landscape along major lines of access will have to be carefully protected.

Park Service and Forest Service management of the timberline zone should be closely followed by the Center. Critical questions include damage by riding and pack animals as well as by mechanized trail vehicles; the rate at which the meadows recover from damage; and the character of persistent vegetation under different intensities of use.

Altitudinal Zonation. Altitudinal differentiation of vegetation has been studied much less thoroughly in the Cascades than in the Colorado Front Range for example. It is due to difference in temperature upward, often estivated on the basis of 3.3° F reduction per 1,000 feet altitude, and involves geomorphic and hydrological processes as well as vegetation.

The lapse rate of surface temperature is subject to complex local and seasonal anomalies, mostly related to temporary or seasonal thermal inversions. Such inversion in winter is caused by radiational cooling of

surfaces, and by drainage of the resulting cold air into basins. In summer a general inversion in the Puget Sound Basin, extending into the mountains, is due partly to cooling by the waters of the Sound, and partly to regional characteristics of the general atmospheric circulation.

Because of upward cooling, the subtropical affinities seen in vegetation on the shores of the Sound are not seen on Cascade mountainsides. However, both the remnants of virgin forest there and second growth forests show only slow change in character upward for roughly 3,000 feet (the "montane zone", as opposed to the subalpine zone above).

Giant Douglas Firs are dominant in most of the mature montane forest, with red cedar and hemlock important in moist sites which are less vulnerable to fire. Increase in the proportion of true firs marks the transition to the subalpine zone, in which mature trees remain huge in favorable sites up to timberline.

Alder dominates non-coniferous montane second growth. Both vine maple and broad-leaf maple are prominent, the former being an understory and successional species of small size. Like subalpine snow alder and Alaska Cedar, it resists avalanche damage in chutes because of its flexible stems. It is especially colorful in autumn.

Subalpine species descend into the montane zone along avalanche chutes and other moist drainageways, which also channel descending radiation-cooled air. That phenomenon is especially well seen where avalanche drainage reaches 500 feet altitude under the north face of Mt. Whitehorse near Darrington.

Virgin forest is still being logged on many montane and lower subalpine mountainsides in the Cascades, often on slopes of such steepness as to add greatly to costs. Many of the roads constructed are maintained by the Forest Service to facilitate recreational access and future forest utilization.

Douglas Fir logs are used now largely as "peeler" logs for plywood, which represents a substantial upgrading of timber values. Use of smaller and less regular material as pulpwood has reduced greatly the tremendous waste which occurred during earlier decades of logging. Also, cutting is managed to maximize Douglas Fir reseeding. Such forestry matters should be as fully presented as possible to students served by the Center.

As one climbs to subalpine levels timber remains large in continuous forest but is reduced where climatic exposure is severe. The forest canopy becomes more open, and tree crowns are tapering spires resistant to snow loading. True firs, Engelmann spruce, mountain hemlock, and Alaska Cedar characterize the sub-alpine zone. Subalpine larches are common eastward in the range.

The Cascade timberline is not thermal in the sense that those of the drier and climatically more continental Rockies and southern Sierras are, nor does it have their abruptness and altitudinal regularity. It is due largely to recent and continuing glacial occupation of many basins;

to powerful creep and sliding (avalanching) of a massive winter snow cover; and to development of bogs in sites which are often well drained by lowland standards, but are nevertheless continuously moist.

Students served by the Center are often in the Cascade timberline zone as skiers in winter as well as hikers in summer. They are in a position to gain, and to benefit by, many insights into its processes. With respect to avalanches and other safety problems, the Center will be in a position to provide much useful information and guidance. Much support for Center activities will be available from such groups as the Northwest Mountain Rescue Council, and the Seattle Mountaineers.

The Volcanic Cascades. Mt. Baker and Glacier Peak represent in the Northwest region the sequence of volcanic cones which rise above the Cascade Range from Mt. Lassen northward. The volcanic climax of the range adds greatly to its recreational value, contrasting with the old-rock alpine peaks, which for the most part rise only about 2,000 feet above timberline. The two cones are 10,000 foot summits, less than 2,000 feet higher than old-rock Shuksan, and thus have less visitors and retain more wilderness context than 14,000 foot Rainier.

Particular volcanic phenomena, as well as broad volcanic landscapes, are of outstanding scientific and educational interest. Warnings by the USGS recently that volcanic eruptions are possible in the Cascades have stimulated general interest. (In the summer of 1950 Dr. Thompson and Dr. Misch, University of Washington geologist, witnessed a thin but vigorous gas jet, including some steam, which briefly rose about 3,000 feet from the crater of Mt. Baker.)

Other Cascade Phenomena. The Forest Service has been quite properly preoccupied for many years with forest fire danger in the Cascades. The Center can contribute to public understanding of the problem and to public self-discipline with respect to fire.

Because mountains are very complex terrain which not only influences climate but is influenced by it, it is not possible to detail here all the variations of Cascade environment which are of interest. It should be noted, however, that the transition from west-slope to east-slope Cascade environment has not had close scientific study.

Even the greater abundance of volcanic ash in the mountain soils of the eastern Cascades is related to climate, since the westerly winds which prevail over the range ccast have distributed such material, largely from a geologically recent eruption of Glacier Peak, as far east as the Great Plains, but have limited its deposition west of that peak severely.

A key to many east-west differences in the Cascades is seen in the fact that timberline corresponds approximately to an average July temperature of 50°F, and that that thermal level rises under clear skies east of the range, whereas mean annual temperatures, which control the intensity of frost effects in alpine regions, do not rise correspondingly. Thus perennial alpine frost (permafrost) is not encountered much less than

2,000 feet above timberline on the topographic crest of the range, but the two levels seem to meet on the 8,000 foot crest of Mt. Tiffany in the Okanogan Mountains east of the main Cascade chain.

Forests and their relation to other vegetation such as sagebrush in the eastern Cascades are much more like those in the Idaho Rockies and southernmost interior British Columbia than like those of the west side of the range. Differences across the range are much more marked at low elevations than at timberline, however, since that level is less affected by the descent, drying, and warming, of westerly winds (the foehn or chinook phenomenon). Its effects are decidedly irregular. Both in the eastern Cascades and in the ranges of British Columbia and Idaho, some valleys may have sagebrush, whereas others near the same level have giant red cedars. As in the western Cascades, the width and orientation of valleys affect the penetration of westerly wind flows into them, causing climatic differences.

The Role of Environmental Management in the Northwest Region.

It will be the purpose of the Center to increase the quality and effectiveness of environmental management in the region and to influence, by example and by provision of skilled personnel, environmental management elsewhere.

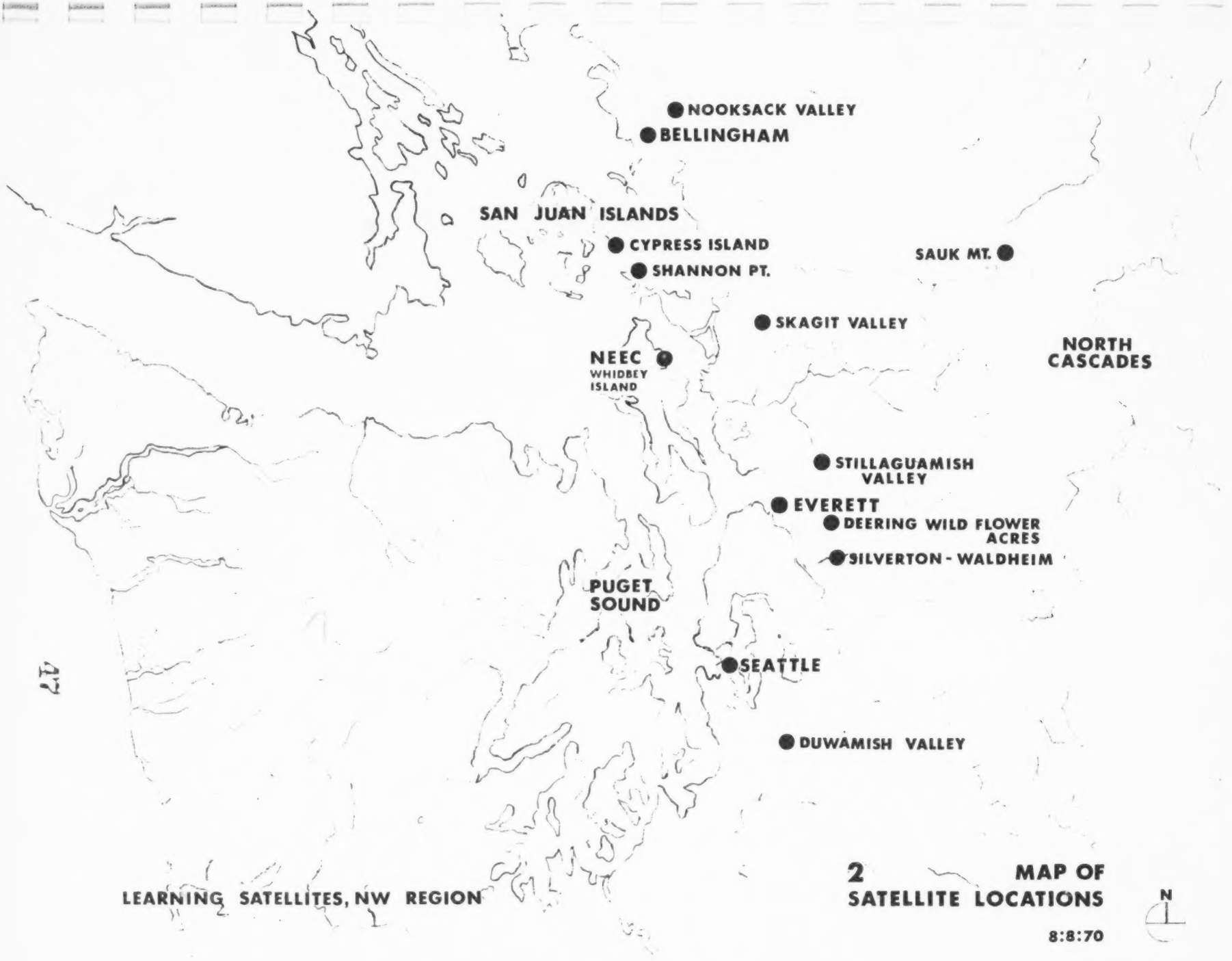
The environments detailed in this outline are not independent systems, nor is the total environment of the region independent of that of the surrounding world. The San Juan Islands still seem relatively protected from environmental decline, yet the tides carry pollution from mainland cities, including those of Canada, back and forth through them even now. Furthermore, they often lie under thermal inversion which traps and concentrates atmospheric pollution over the whole Puget Sound-Georgia Strait basin. Such atmospheric pollution over Puget Sound may some day affect Cascade forests, as that of the Los Angeles basin has already affected mountain forests to the east. The effect of an unchecked population growth on the region further complicates effective management.

Technology, which is essentially a massive release of physical and social energies, is progressively eliminating the ancient tendency of natural equilibria to restore themselves in a manner acceptable to humanity. If the earth is to remain habitable, acceptable equilibria will have to be managed. We must not only train (or better, educate) environmental managers, but must all become sufficiently informed about environment to maintain democratic guidance of the managers.

2. The Satellite System.

There are five satellite centers within the northwest region of Washington state. These satellite centers will serve, to varying degrees, the larger center, located on Whidbey Island. The five satellite centers are: Shannon Point Marine Science Center (71 acres: Anacortes, Washington); Deering Wildflower Acres (25 acres: Marysville, Washington); and Silverton-Waldheim Outdoor Education Laboratory, Snohomish County. The fourth and fifth areas are wilderness sites: Cypress Island (one of the San Juan Archipelego), and Rockport State Park/Sauk Mountain Outdoor Education Site.

The programs to be conducted at these sites vary from one another in academic intent and in function, yet each provides a vital component of a total regional program of environmental education. A description of the activities and functions of each satellite center as well as a statement about their relationships to the larger center on Whidbey Island is provided.



LEARNING SATELLITES, NW REGION

2 MAP OF SATELLITE LOCATIONS

8:8:70

Shannon Point Marine Center

The Shannon Point Marine Center, located close to Anacortes, is under the management of Western Washington State College, and will serve as well Central Washington State College, Eastern Washington State College, neighboring community colleges, and the Northwest Environmental Education Center as a marine science center. Teachers participating in the program at the Whidbey Island site will be able to take marine biology courses at Shannon Point, where resident facilities with a capacity of 100 are anticipated.

This 71-acre site includes a deep salt water channel, a fresh water pond, a stand of old coniferous forest, and is situated near a highly industrialized area.

Deering Wildflower Acres

Deering Wildflower Acres, located in Marysville, is under the management of Western Washington State College. This 25-acre site represents what is most typical of a second growth forest in Western Washington and can be used to illustrate that school districts throughout the region need not go far to duplicate such an area. Activities at the site also demonstrate that uniqueness of feature is not a prerequisite for an effective program of environmental education.

Activities: For the past year, laymen and students from neighboring schools have worked together at Deering Wildflower Acres to develop ways of taking a physical inventory of the flora and fauna and to develop techniques for the investigation of special problems.

Although the inventory was originally an end in itself, it became clear after a few months that the project was providing a model for the way in which the community can assist its schools in carrying on programs of environmental education. Retired men and women, with special skills and training, have been helping the students to understand what is there and to provide them with a perspective about their relationship to the natural world. Students who participated in the program this year were asked to review their experiences. Typical responses included:

> "It was the first time I ever had a chance to study what I wanted to, on my own time, and in my own way, with consultant help only."
>
> "It was a good excuse to work outside."
>
> "When different ages work together on a project, learning together, we know each other better and appreciate what each has to give."

It became clear that a valuable resource, the retired people in a community, have much to offer in the way of time and expertise to these new programs.

The goals of the Project Committee of Deering Wildflower Acres are now in focus and will address themselves to:

1. Building a dependable body of information about the area;
2. Developing methods that increase sensitivity to the surroundings;
3. Developing techniques that are useful in the taking of a physical inventory;
4. Establishing a working relationship between professionals, educators, students and lay people;
5. Creating a larger community task force in environmental education.

The Center proposes to call attention to this program within the region to demonstrate that:

1. A field-oriented program of environmental education can take place within the area surrounding the district, and need not depend on unique settings.
2. Laymen within the community should be used to increase the quality of the program and to establish a closer relationship between school and community.

Silverton-Waldheim Outdoor Education Labotatory: A Proposal for Its Development as a Region-Wide Base for Outdoor Education Activities

Introduction: The Silverton-Waldheim Outdoor Education Laboratory (S.W.O.E.L.), located 22 miles east of Granite Falls on the Mountain Loop Highway, came into being as the headquarters for the Snohomish County schools' outdoor education program in the summer of 1948. Although the summer camping programs have always been successful, it became clear a few years ago that a great deal more could be accomplished. The academic potential of the field experiences was consequently explored and a new concept of outdoor education defined. Western Washington State College approved the new academic objectives of the Laboratory and in 1968 began to offer college credit to teachers who enrolled in the resident program.

The goals of outdoor education have grown to include "the affective utilization of the out-of-doors to facilitate and enrich learning related to the school curriculum."[1] Math, science, language arts, social studies, art and music, health, physical education and recreation are all brought into play as the student begins to learn to relate himself to the natural world.[2]

The Relationship of Outdoor Education to Environmental Education: An examination of some outdoor education concepts is perhaps the best way to understand how outdoor education provides a firm foundation for environmental education. Through inquiry and discovery in the out-of-doors, a child will learn that soil is a basic resource and that all living things depend on it directly or indirectly; he comes to learn that everything we eat, wear, or use has minerals in it; he learns that water is our most important resource and that man's needs determine to large extent our water problems; he learns about plant life and how to manage plants correctly so that they can regenerate; he learns about animals and of their year-round need for an environment that can provide them with food, water, and shelter.[3] "The essence of learning in this real-life situation is through problem-solving,"[4] a necessary process for analysis of more complicated environmental issues. When a child reaches this level of awareness about the natural world and what it requires to survive, he is in a far better position to assess man's interaction with it. It is this latter consideration that will preoccupy most programs of environmental education.

Programs of outdoor education have a long history of experience and can easily accommodate large numbers of students. Programs of environmental education, on the other hand, are new and untried, and require a much lower teacher-student ratio in order that staff development and improvement can go on under optimal conditions.

Learning Activities at the Laboratory: Some of the typical activities include water and soil testing and examination of the forest community as a self-contained ecological system.[5] Exploration along Lake 22 Trail, the Perry Creek Trail, the Big Four and Monte Cristo areas, and climbs to Mt. Pilchuck summit provide a backdrop for many of the learning experiences. The quest of man for gold within this region at the turn of the century is still dramatically apparent at Monte Cristo. Visits to the Granite Falls fishway, and discussions with representatives of the U.S. Forest Service are also part of the ongoing weekly program.

(NOTE: Because the student population of 100 changes every week during the eight-week session, many of these activities are repeated throughout the summer session by the teachers.)

The resident program provides a different kind of learning, less easy to define. "In the total-living situation of the outdoor school setting there are numerous gains, many of which cannot be measured in terms of tangible results." An improved relationship between teachers and pupils is unquestionable, as they learn and live together. The teacher also has an opportunity to observe his pupils under a variety of conditions in which he would not ordinarily see them. Another value of the resident program is the "practically unlimited block of time" in which to explore problems. According to Hammerman, the resident schools present an almost "ideal academic community--free of interruption, providing pupils and teachers the framework for intensive study."[6]

Facilities and Site Capacity: Facilities include a combination kitchen-dining hall with a large, natural rock fireplace; eight large, two floor A-frames with cedar shake roofs; two adirondack-style shelters constructed on concrete slabs and used as quarters for the senior counselors; a large, all weather resource center, also built on a concrete slab; a lavatory building with modern fixtures; and an historic warehouse.

The total capacity is 150; 100 students, and 50 teachers and staff.

A Proposal for Development of S.W.O.E.L. as a Region-Wide Base for Outdoor Education Activities: As a rule, the teachers have been regrouping in the fall to discuss changes which should take place the next summer, and to evaluate how they are using their new skills in the classroom and in their communities. In the summer of 1970, however, the teachers, together with representatives of the Northwest Environmental Education Center, began to evaluate the program before the close of the session. Based on their needs for a more highly programmed experience, and on the needs of NEEC for a region-wide base where training in outdoor education can take place, the following conclusions were drawn.

1. Outdoor education is a valid learning experience and should be implemented year round. Teachers need training in the Spring so that the early weeks of the summer session are put to greatest use, i.e., testing of new information and skills with the students. Teachers can profit most from a two summer experience, with at least half of the original teachers returning the second summer to train other teachers unfamiliar with the program. Training should also continue into the fall so that the teacher becomes comfortable in adapting these skills to the classroom.

2. Facilities need to be expanded so that classes can go on during the winter months, in order to study the environment under different stresses, i.e., low temperature, snow, and so that the most active program in the summer months can become more effective.

The relationship of outdoor education to environmental education was explored by the teachers and the staff of NEEC. It was agreed that outdoor education is an integral part of any environmental education program, and can have its greatest impact on the elementary and middle school child. Children of this age are tremendously curious and in awe of how the natural world functions, and are highly receptive to an academic outdoor experience.[7] Such a program not only capitalizes on where these children are at this time, but provides them with the background they need to deal in later years with more complicated environmental issues.

The Northwest Environmental Education Center recommends, therefore, that S.W.O.E.L. be expanded in function to serve all teachers within the five northwest counties and King county so that the needs for staff development and improvement in outdoor education can be met. The Center requests that planning money totaling $15,000 be appropriated to the S.W.O.E.L. staff and others to plan a comprehensive year-round program.

This money would allow S.W.O.E.L. to answer the following questions and to bring in consultants when needed.

1. Water and sewer system. Is the flow adequate? Where should a facility be located for the storage of spring water?

2. Building design. What kind of structure (s) will accommodate the needs of an expanded outdoor education program? Should there be mobile living quarters so that movement from one site to another can go on? Minimal site requirements, as established by agencies such as the Oregon State Office of Public Instruction, will be reviewed.

3. How many individuals can the site accommodate at any one time without damage to the site? What should be the ratio of students to teachers?

4. How can the present summer program be expanded? What kind of training can go on during the school year?

5. What grade levels should be represented by the students?

6. Could parent and child teams participate in the activities of the laboratory?

7. Should counselors be of college age? Should they be student-teachers? Would they receive credit? How many counselors per living group?

8. How can the newly required skills be adapted to classroom use? What skills will allow the teachers to carry on outdoor education programs in their own districts? How can playgrounds be used for outdoor education programs?

9. What constitutes good training in outdoor education?

10. What kind of program money is needed? What share should the districts contribute? The state? Should figures be based on costs at CISPUS, which are $3.60 per day?

11. What kind of staff is needed?

12. What consultants, e.g., geologists, are needed for training during the spring and summer?

13. What kind of credits should be offered to the teachers for this three quarter program?

14. What are the transportation needs?

15. What are the mechanisms for coordinating this program region-wide?

16. What learning activities during the winter months are appropriate at the site?

17. Where can funds be found to support retraining programs?

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Wilderness Sites

Any program of environmental education would be incomplete without exposure of students and teachers to areas which have not felt the impact of man's activities on them.[1] In an educational setting, such areas provide a touchstone or a criterion for measuring the degree and relative value of that impact. Although the Pacific Northwest has not undergone the kind of exploitation to be found in other, more densely populated areas of the United States, the number of areas that could be classified as "wilderness" have decreased at an alarming rate.

A definition of wilderness, as put forth in the Wilderness Act of 1964 (Public Law 88-577), is appropriate here so that we have a common frame of reference.

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean ...an area of undeveloped...land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's works substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Two such relatively untouched sites have been identified by the Northwest Environmental Education Center, and are being programmed for special investigation.

The first site is on an island, large enough to be a self-sustaining system. The second is a fragile alpine region located above Rockport State Park on Sauk Mountain. So that both primitive areas can be used as educational reserves and at the same time retain their primitive quality, close management of them is mandatory. Access through these sites will be limited, and activities programmed. (Although the North Cascades have tremendous possibilities for the study of wilderness and will be part of any field-oriented program, they will not be considered, for the purposes of this section, as a "site.")

Cypress Island: It is the opinion of the Sierra Club that Cypress Island is the only large island left on the West Coast that is relatively undeveloped, and as a natural area has great scientific and educational value.

Cypress Island is seventh largest of the San Juan Archipelego, and is four miles from the town of Anacortes and 50 miles northwest of the greater Seattle area. It comprises some 5,500 acres and is about five miles long and three miles wide. Its spectacular topography ranges from sea level to

two high points of 1,500 feet. Most of the island is still covered with Douglas fir, largely second growth. Logging has been sporadic but mostly selective and has not drastically altered the forest cover.

Terrain: From the several high points, the land stretches through heavily wooded areas to the shoreline which alternates between flat beaches and spectacular rocky coves, including Eagle Harbor, Secret Harbor (at the furthest reach of Deepwater Bay), and Strawberry Bay. Fresh water is available largely as ground water and as lakes. Cypress Lake of 30 acres and 65-foot depth is the largest of a group of lakes in the center of the island. From some of these lakes, small streams run to the shoreline. Two swamps add to the biological diversity of habitats on the island. Eagle Cliff, at the far north end, shows contrasting surface features due to glacial action on the upper sector and the unglaciated and more irregular rock outcrops below.

Vegetation: The flora is exceptional. Many plants are dwarfed and some are unusual varieties and species, because Cypress, largely underlain by olivine rock, has soils with an exceptionally high magnesium content. The plant cover includes native rhododendron, Oregon grape, huckleberry, tiger lily, red columbine, spirea, and many others--some not common on the nearby mainland. Of the trees, Douglas fir, shore pine, hemlock, big-leaf maple, Rocky Mountain maple, and cedar are dominant. The absence of certain mainland plants is also noteworthy, especially the scarcity of weedy species.

Animal Life: In addition to the abundant marine life of rocky shores, on cobble beaches and in the many tide pools, the animal life on land is rather distinct. One finds black tail deer, though small in size, as well as some other mainland mammals.

The special quality of the fauna is the absence of several mainland species. There appear to be no moles, tree squirrels, mountain beavers or bears. Why are so many common Puget Sound plants and animals rare or absent on Cypress? This is one of the numerous biological problems awaiting investigation on the island.

Some 70 species of birds have been identified, including the bald eagle, now rare in Washington State.

Uniqueness: Today, nearly all of the San Juan Islands are settled or developed. Some have been invaded by industry. Only Cypress, of all the major islands, still remains almost untouched. There are a few year-round inhabitants and a number of summer visitors. The Boy Scouts own a point of land on the east side of the island. In general appearance, the island has probably changed little since the 1700's, when first sighted by the Spanish.

Cypress Island offers the last opportunity to study a large island in a relatively undisturbed state. (Rocky terrain offered few opportunities for the usual water front development.) Its beaches are backed by cliffs; it is mountainous, and water is scarce. The island is large enough to be self-contained and supports a complex life system.

The Value of Cypress Island As a Scientific and Educational Reserve: All departments within Washington state government which concern themselves with

human growth and development will have a resource available that can provide man with a setting in which he can come face to face with the ecology of his own existence. People from other areas of the state should be encouraged to study the island so that the impact of it is more than regional. Though cooperative planning on the part of public and private agencies, an environmental park could be created; a scientific studies center could be established; an underwater observation platform and walkway could be constructed. The concept of an environmental park should be defined here to distinguish it from other kinds of parks. According to the Save Cypress Island Committee, which has worked for a number of years on a land use policy, an environmental park is "one which will least disturb natural life systems, while offering the greatest opportunities for man at any age to learn more of his place in those systems and to have fun while so doing."

The island, because it is a self-contained ecological system, will be extremely valuable in demonstrating the delicate balance that must be maintained to support all life forms. If we can come to accept this law of nature, we will be closer to understanding that our survival depends upon this very balance. Managed as a scientific and education reserve, the island stands a far greater chance of survival as a system than areas on the mainland which are always subjected, directly or indirectly, to poor management.

Guidelines for Use of Cypress Island As a Scientific and Educational Reserve:

1. The impact of man, whether they be school personnel or the public, must remain low, in order to preserve the wilderness qualities. Man's presence must be minimal and temporary, and his footstep light.
2. Scientific studies on the island must be controlled, and only those learning activities that leave the island minimally disturbed will be permitted.

Management: The future of the island will be determined by two major land holders and the Department of Natural Resources whose holdings are considerable. The ultimate goal is to have the whole island and adjacent tidelands set aside as an educational reserve. It is envisioned that there will be several types of ownership, both private and public, but the goals of all will be the preservation of the natural character of the island.

Land and tidelands owned or controlled by the Save Cypress Island Committee and The Nature Conservancy will be made available to the Northwest Environmental Education Center to be used to carry on that part of the NEEC program which calls for a wilderness area or for the study of an island "community". It is hoped that the Department of Natural Resources and the State Department of Parks and Recreation will work cooperatively with the Save Cypress Island Committee, The Nature Conservancy, and the Northwest Environmental Education Center (which represents the State Office of Public Instruction) to acquire land for this purpose or to lease it to these groups for a minimal yearly fee.

It is unlikely that any one agency will have a clear title to a major part of Cypress Island. Although superficially it may seem complicated to have the island under multiple ownership, it does point up the overlapping interests of at least three state agencies (Office of Public Instruction, Department of Natural Resources, and Department of Parks and Recreation). A

model for cooperative ownership and management has exciting possibilities and reflects, in part, the nature of the environmental crisis and of environmental education. Environmental problems cannot be contained within artificial boundaries, such as county and state lines, nor can environmental education be contained within a single discipline.

The policies set forth by the multiple owners will clearly reflect those of the environmentalist movement which is directed to save as many of our remaining wilderness areas as possible so that they can be enjoyed by future generations.

Sauk Mountain Outdoor Education Site: Sauk Mountain, located in the Skagit Valley, is being programmed for use by schools as an outdoor education site through the cooperative efforts of the Sedro Woolley School District, the U.S. Forest Service, the Department of Natural Resources, the State Park Board, and the Skagit Alpine Club. Although the Sauk Mountain site has served primarily those schools within Skagit County, it will eventually be used by schools within the entire northwest region of the state. As the "Teachers' Guide to Sauk Mountain Outdoor Education Site" points out, the Whidbey Island site "provides a choice site for study of ecology from sea level to about 400' elevation. The Sauk Mountain site begins where the Whidbey site ends, and continues to an Arctic biome." These two sites, in effect, allow for the study of ecology from sea level to an arctic zone.

Description: The site is located in eastern Skagit County, and is reached by a good graveled road that turns off Highway 20 at the west end of Rockport State Park. (The Park itself has much to offer and would afford some fine learning experiences without going up the mountain.) The top of Sauk Mountain is reached by a switch-back trail which can be observed from the parking area.

The program which has been written for use of the site provides a teacher with information about the region as he is traveling with his students from the highway to the parking lot. Typical activities and questions a teacher can direct to his students as they pass through this Mountain Forest Zone are:

> Study a single tree. What kind is it? Why did it grow there? How old is it? What is its height, circumference? What does it do for the area in which it grows?
>
> Study the soil. Dig a hole and observe the soil zones. Fill the hole and leave the area like you found it. Observe a hillside along the road where soil is exposed.
>
> Study a rotting log or stump. Reconstruct its history. How is it useful now?
>
> Take a look into the future. What would happen here if we cut this one tree? This group of trees? Bulldozed here? How does a specified plant (s) or animal relate to the ecology of the area? How does this area relate to me? How do I relate to the area?

The Baker River District of Mt. Baker National Forest has published a description of stations that are located along the Sauk Mt. Trail.

> Station Number 1 is located at the edge of an alpine meadow. Why is there an absence of trees here?
>
> Station 3 is a good spot to see the effects of man on his surroundings. Here trail-cutting has caused gully erosion across this alpine meadow. At Station 4 the bent trees were deformed by snow spillage.
>
> Proceed on to Station 8. Walk out on the trail to the rock point, fifty feet from the main trail. Here you can look down on the oxbows in the Skagit and Sauk Rivers. (Oxbows are old river channels that have been filled in by silt and dirt and remain in the land when the river changes course.)
>
> Station 9 is a view of Sauk Lake, open for fishing during the summer, but frozen 9 months out of the year. How was this lake formed, can you guess?

Academic Potential of the Site: There are essentially four zones within the Rockport State Park-Sauk Mountain area. The first is the alpine zone of intrinsic aesthetic value. The area is fragile and the impact of people on it must be limited. The second zone is a silver fir zone. (Why have trees changed in size and kind from one zone to another?) A comparison can be made of growth rates. Zone three is the state park. Here we have a fine example of old growth fir, the last such zone within the Skagit Valley. The fourth zone is the valley floor, where we witness the confluence of the Sauk River, which is heavily glaciated, and the Skagit River, which is thinly glaciated. We see here a more intensive use by man.

Other Features:

1. A patented mining claim at the parking lot.
2. The town of Sauk, once a boom town during the gold rush.
3. Clear cuts of different ages.
4. A good view of air pollution over the Puget Sound from the site.
5. Rich Indian history.
6. Fossilized sea creatures.
7. A view of the dams on the Baker River and of the Sister Range.
8. Study of the concept of parks, e.g., recreational, industrial,

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The Use of Washington State Parks as Ancillary Environmental Education Centers

In meetings between the Northwest Environmental Education Center and the State Department of Parks and Recreation, there was general agreement that recreation and educational activities could go on, without conflict, on state park land.

There is still the need, however, for 1) a comprehensive analysis of the academic potential of each park, i.e., physical features, and 2) training of forest rangers in interpretative skills. The Northwest Environmental Education Center supports the request of the Department of Parks and Recreation to the legislature that funds be allocated either for retraining of forest rangers or the hiring of interpreters who can conduct school programs at the parks. It also recommends that a procedure be established through the administrative offices of NEEC to coordinate the educational use of the parks by the school districts within the region.

Use of the state parks as centers for environmental education programs will also provide valuable data to the Department of Parks and Recreation as it plans for future facilities.

The Northwest Environmental Education Center has initiated contract negotiations with the State Department of Parks and Recreation for use of the resident facilities at Deception Pass Park, Coronet Bay, during the year 1971-1972. This contract will not only allow the program at Whidbey Island to become operational by the Fall of 1971, but will enable the Center to demonstrate how this particular park and others can be used to support programs of environmental education.

3. Man-Altered Environments.

An examination of communities of various size will also be a part of the program. Washington's largest city, Seattle, is roughly one-half hour to two hours away from most of the school districts within this geographic region. As we become progressively urbanized, it is increasingly important to familiarize students and faculty with the problems of the inner city. Typical questions to be answered on such a site visit might be:

-- How has the physical environment, e.g., Puget Sound, contributed to the city's growth?

-- What industries within Seattle depend upon the physical environment for existence?

-- How many people are employed by Seattle's major industries?

-- What kind of planning has been done to accommodate population growth and industrial expansion?

-- Who has been responsible for this planning? Has it been effective?

-- Why do cities physically deteriorate?

-- How closely tied is physical deterioration to poverty?

-- When does a neighborhood within a city become too crowded?

-- What is the effect of crowding on mental health?

-- Is there a tie between physical deterioration, crowding, and crime?

-- How do people move from one place to another? Is the present means of transportation effective and how do we measure effectiveness? What are the alternative solutions, e.g., mass transit and what do they cost?

-- What are the advantages to living in a city?

Site visits within a city are recommended to a physically deteriorating neighborhood, major industries or institutions, existing recreation areas, city council meetings, the county hospital, the highway department. Discussions are recommended with representative teachers and students from a school in a physically deteriorating neighborhood, labor and management from one of the major industries, representatives from the city park department and from the city council, and with physicians and psychologists who deal with physical and mental illnesses tied to environmental pollution.

Suburban areas, according to the 1970 census, are clearly absorbing most of the population. Examination by students of this "middle zone" between city and country will answer such questions as:

-- What are suburbs?

-- How fast have they grown and why are they continuing to grow?

-- What kind of land have they displaced?

-- What kind of planning has gone into their development? Who has done the planning?

-- What is the average income of suburban dwellers?

-- Are the schools adequately supported?

-- What are the property taxes?

-- What kind of income does one need to live in a suburb?

-- What kind of special problems do the suburbs have?

Exposure of students to small towns and to rural areas will allow them to grasp the significant role played by land set aside for agricultural purposes, and will permit them to assess the relative values of rural living. Some questions to be answered might be:

-- Why is the town small?

-- Is the physical environment indispensable to the economic livelihood of the town?

-- Are the problems of the city the same problems to be found in small towns or are they different?

-- What is the present value of undeveloped land?

-- What are the taxes on this land?

-- Why do people move away and sell their land?

-- What happens to the land when it is sold?

-- What advantages are there to leaving areas of land undeveloped?

-- How much of our nation's agricultural needs are met by Washington farmers both here and elsewhere in the state?

-- What kind of planning is taking place to accommodate anticipated growth in a small town?

-- Are the schools adequately supported?

-- How many students from the schools go to colleges? How many of these return to live in this town?

-- Is the town and others like it represented in the state legislature?

-- Why do people choose to live in small towns?

Examination of wilderness areas other then those set aside for educational purposes will allow students to ask such questions as:

-- Are they open to the public? If so, how crowded have they become during the tourist season?

-- Are visitors predominantly from Washington state or is there a fair proportion from other states and from Canada?

-- What are the plant forms and animal species to be found in a particular wilderness area? Has this profile changed over the years? If so, for what reasons?

-- How is the area being protected from damage?

-- What is the working relationship between the forest industry and the state and federal park boards?

-- How many trees are being cut down yearly? Are they being replaced? What is high yield growth?

-- What effect does the presence of people have on a natural area, even if they don't step off the trails?

Field trips to meetings of county and state governments are also highly recommended. A visit to Olympia during a legislative session would allow the students to observe what goes on at committee meetings and hearings when environmental issues are being considered. Discussions with legislators and other government officials would be part of any planned program.

Certainly programs on the secondary level will be concerned with a number of social, political, and economic issues. It would be desirable to know, for example, what levels of air quality and water quality must be maintained to support life. An examination of our energy resources will provide the student with information about levels of consumption and rates of depletion. What are the costs of "cleaning up" our environment? Who pays for it? What is the cost if we postpone the task? What is progress? What have been our motives for changing our physical world? What are the long-range effects of our present level of interaction with the natural world? These questions touch on only a few of the issues that could be dealt with through a rigorous field-trip experience that should go on throughout a student's career in the public school system.

4. Mobile Learning Laboratories and Classrooms.

Basic to a problem-oriented and field-oriented program of environmental education is mobility to investigate firsthand the environment around us. Mobile-learning classrooms and laboratories are proposed to allow for an experimental field program of the highest quality.

Each unit would transport a total of 22 students and teachers and would be equipped to store sufficient supplies for a field trip of one to two weeks duration.

Suggested equipment to be housed in the unit might include tables (folding), microscopes, laboratory kits to test water quality and air quality, a decibelometer to measure noise pollution, soil testing kits, reference materials, visual aids, slides, maps, tapes, graphs, charts, as well as food preparation space and appliances.[1-12]

The use of mobile units region wide for a successful program of environmental education is not an established fact of life. The need to test the feasibility of such sophisticated equipment is, however, and resources should be made available to purchase two such units for testing by the Sedro Woolley District and by teachers who are participating in the program on the Whidbey Island Site.

Training of the cadre of teachers in the use of the mobile classroom or laboratory will give them the skills they need to inventory systems, both physical and human. The investigation of the environment to be found within the region calls for the ability to perceive what is there, to analyze what is seen and to interpret this analysis to students. Through the use of discovery techniques or inquiry techniques and new interpersonal communication skills the teachers will be able to lead students to a similar level of awareness. The teacher will become experienced in working with unfamiliar settings, in meeting with people from other communities, and in identifying specific environmental problems from one area to another within the region. The teacher will learn to plan field trips, to analyze and use routes, to manage students under a variety of conditions and in a variety of settings, and to learn to modify these field-trip programs so that they can be conducted in an ordinary school bus.*

It is proposed that active exchange programs of students and faculty from one environmental education center to another be established as soon as feasible so that exposure to new and different environments around the state is facilitated. We must begin to acknowledge that environmental problems elsewhere within a system, be it defined as a community, a county, a region, or a state, will eventually have their effect on us. People west of the Cascades have a stake in what happens to people east of the Cascades, and vice versa. This awareness is crucial to effective planning state-wide, nationally, and even globally.

* We must assume that regular school buses will fill this need regionally for a number of years. Some simple adaptions of them for field-trip use has been successfully tested by the Director of the Center.

Discussion with the Crown Bus Company of California (a possible designer of such units), with the Washington State Highway Department and with the State Patrol has already been initiated so that the implications and possible limitations of such a unit can be identified. Inquiries and lay-out studies to date indicate that mobile units up to eight feet wide by 40 feet to 65 feet long are practicable and permissible by legal units. It is recommended by the Center that seating arrangements within the vehicles be located in an entirely different manner than those of typical buses or airlines, and should permit open spaces for group discussions, screen and television production and viewing, as well as open spaces developed for laboratory counters.

Because of the cost of such units it is important to analyze what lack of funding would mean to a regional program of environmental education.

The rationale for any field-oriented program should be restated, in perhaps somewhat different terms. An understanding of the environment can not go on in a traditional classroom setting. According to educators, 85% of what we learn comes to us through the sense of sight. The use then of textbooks that tell us rather than show us what environmental problems are should be reduced. We need to perceive for ourselves what is there and to analyze on a site what is going on. In this way attitudinal and behavioral changes are more readily possible. The world around us is, in effect, our textbook and our classroom. The kind of experimental school recently designed for Vancouver, Washington, is based upon these same assumptions. There may be far less need for traditional school buildings in the future as our ideas change about what an education should be.

In brief, lack of funding for a field-oriented program and for units that allow for maximum exposure to the environment will mean a program that is only minimally effective.

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5. The Need for a Regional Inventory.

A five-man task force consisting of a generalist, biologist or naturalist, geologist, geographer, and historian will conduct an in-depth inventory to identify the social, biological, and physical environments to be found in the pilot region. The data gathered will be interpreted and translated by the Center into environmental education programs for use by the schools in their investigation of the Northwest region of the state.

This information will also be of tremendous value to school populations throughout the state as exchange programs begin between environmental education centers, and should serve a useful purpose within the region as local governments begin to plan policies for environmental control. A study similar to the 1970 "Delaware Valley Environment: Status and Prospects" for the Greater Philadelphia area is cited as an example of how it can serve the regional communities. The problem-oriented field-study model to be undertaken for the faculty of the Sedro Woolley School District will provide a guideline for how such an investigation can be used on a district or community level. (See pages 8 - 9 for a review of the four-phase study.)

C. A Proposal for the Development of the Whidbey Island Site as a Regional Center for a Staff Improvement and Development Program in Environmental Education.

1. Introduction.

A Whidbey Island Task Force, representing all of the educational institutions within the northwest region of Washington state, met on four occasions during July 1970 to determine how the Whidbey Island site could best serve the present school population of 125,000. It was obvious to the Task Force that at least 21 more sites similar to the one on Whidbey Island would be required to run the kind of student-oriented program that has been going on at the site over the past few years. The Task Force concluded that the most realistic way of reaching these numbers was through the training of a nucleus of school personnel within each district who could then become the environmental education specialists for their schools. A facility at the site to train this cadre of teachers was therefore recommended. Its functions will be primarily those of staff improvement, program development, and dissemination of environmental education throughout the region and the state.

The Task Force agreed upon the following premise and goals:

PREMISE: Environmental education must concern itself with "all things" and must be a strong creative force in shaping a human environment that promises a quality survival.

GOALS:

--To establish a regional center for staff improvement and development and for program development and dissemination of environmental education.
--To search for creative ways to solve environmental problems through education.
--To evolve programs of environmental education which are people-oriented, field-oriented, and interdisciplinary.
--To involve students, teachers, and other adults in the creation and testing of these programs.
--To develop criteria to analyze change in man's attitudes, values, and behavioral patterns in relationship to his environment.
--To design stimulating facilities compatible with a natural setting, and which serve the objectives of environmental education activities at the Center.

A second task force was subsequently formed which defined what kind of staff improvement and development program should be explored and the ways in which it could be accomplished.

--A resident facility was considered essential to allow for intensive training and to breakdown the barriers of communication between people that often inhibit learning. In order for it and other facilities to have maximum use, and in order to train a maximum numbers of teachers, the Center will be operational 12 months a year.
--Learning stations for the investigation of particular environmental problems or concepts will be the testing ground for the achievement of behavioral objectives.
--Three levels of teacher competency to serve the individual district, the individual school, and the individual classroom were defined so that a hierarchy of environmental education capabilities could be established on the district level.

--Program development will concern itself primarily with a formulation of behavioral objectives for environmental education, and with those learning activities and strategies which produce attitudinal and behavioral change.

2. Program Development.

a. Teacher Competency.

Three levels of competency are proposed which will produce teachers who can serve their districts in one of three ways:

As a DISTRICT SPECIALIST in environmental education, a teacher will be competent to coordinate environmental education activities on the district level and to conduct in-service courses in environmental education for district credit. He will have an overview of behavioral objectives for all disciplines as they relate to environmental concepts, and will be skilled in those processes or strategies which can lead to attidudinal and behavioral changes.

It is estimated that the average length of internship at the site for a district specialist will be six months. This length of time is an approximate estimate only, however, and will vary from individual to individual until the desired level of competency is reached. If this length of training is realistic approximately 48 teachers, in groups of 12, will be trained as district specialists by the end of the first biennium.

As a SCHOOL SPECIALIST in environmental education, a teacher will be competent to coordinate environmental education activities for personnel within an individual school and to assist the district specialist in the teaching of in-service courses. He will have an overview of behavioral objectives as they apply to the disciplines and grade levels which are represented in his school, and will be skilled in those strategies which lead to attitudinal and behavioral changes. He will work individually with teachers within his school, helping them to modify their programs so that the behavioral objectives of environmental education can be accomplished on the classroom level.

It is estimated that the length of internship will be on the average of two months, although again, as in the case of the district specialist, this period will vary from individual to individual. If this length of training is realistic, 59% of the schools within the region will have a school specialist by the end of the first biennium.

As a SHORT-TERM TRAINEE in environmental education, a teacher will be competent to begin re-evaluation of his course of study in terms of the behavioral objectives of environmental education and will be able to respond with familiarity to some of the concepts and strategies introduced in courses developed on the district level by the district specialist. With assistance from the school specialist, the classroom teacher will then reorganize his curriculum in terms of these behavioral objectives.

It is anticipated that the training period at the site will average five days. In this way a total of 860 classroom teachers within the region will have

been introduced to the program by the end of the first biennium.

Evaluation of these three levels of teacher competency is built into the basic design of the program. The internship for an individual teacher ends when he can perform at a particular level of competency.

Reimbursement from the State Office of Public Instruction to the individual district for substitute teachers to replace those in training at the site will allow the district to continue with their planned program. If staff improvement and development can proceed in this way, the goal of the center to prepare a minimum of 15% of public school faculty within the region can be accomplished. By the end of the first biennium, 4% of the teachers will be either district specialists or school specialists, and an additional 19% will have been introduced to the behavioral objectives of environmental education.

b. Student Participation.

One hundred and twenty public school students will come on to the site each week to participate in the learning experiences. By the end of the first biennium (June 1973), it is anticipated that 8,600 students from the region (7%) will have spent five full days there. Although a number of alternatives are possible for selection of these students, it seems reasonable at this time to select those children who are students of the short-term trainees. In this way the need for a substitute teacher will be reduced and the teacher and students will have a similar frame of reference when they return to their school.

3. Curriculum Development

One major task of curriculum development at the site will be to arrive at and eventually achieve behavioral objectives for environmental education curriculum. This task can be accomplished in one of two ways:

a. A list of behavioral objectives can be drawn up by answering the questions: What kind of people do we want to produce, and what kinds of behavior are desirable?

Answers such as: "A person will be sensitive to the relationship of air pollution to health."

"A person will support policies which reduce pollution of the oceans."

"A person will be able to predict the effects of population growth on food production."

are all appropriate responses, but do not address themselves to a process or a way in which these desired ends can be achieved. Furthermore, such a list threatens to be exhaustive and therefore unmanageable.

b. The second option is to develop a model that defines what concepts, mental processes and skills, and attitudes seem to be appropriate for a program of environmental education and to use them as a way of achieving a particular behavioral objective.

The second option has been chosen by the Northwest Environmental Education Center as a more reasonable approach to curriculum development. Environmental education is a growing and evolving concept; it touches base with all disciplines, and has as a major goal the difficult task of changing the way we see and respond to our world. To say that we know now exactly how we intend to reach this end would be a fallacious assumption. We can, however, propose a model that addresses itself to environmental education and which can potentially be a basis for arriving at behavioral objectives. To the best of our knowledge, this model is unique and is the product of the second task force. Chief among its contributors are Dr. Lee Balzer, Department of Biology, Western Washington State College, Mr. William Orme, Department of Education (W.W.S.C.), Mr. Rupert Schmitt, Instructor at Skagit Valley College and a member of the Board of Directors of NEEC, and Mr. William Stocklin, Director of the Center.

Bloom's Taxonomy of Educational Objectives (Handbooks I and II) expresses the learning people are capable of and was a starting point for this consideration. Other models were examined [Science: A Process Approach (AAAS); Life Science Series of the Science Curriculum Improvement Study] which also attempt to provide a process by which achievements and behavioral changes can occur through learning. An examination of older programs such as conservation education and outdoor education was valuable. Although the goals of these programs are not being disputed here and are certainly appropriate areas of concern, they have not been particularly successful in generating favorable attitudes and behaviors toward the environment. Americans continue to pollute and destroy their environment with little or no evidence of reluctance.

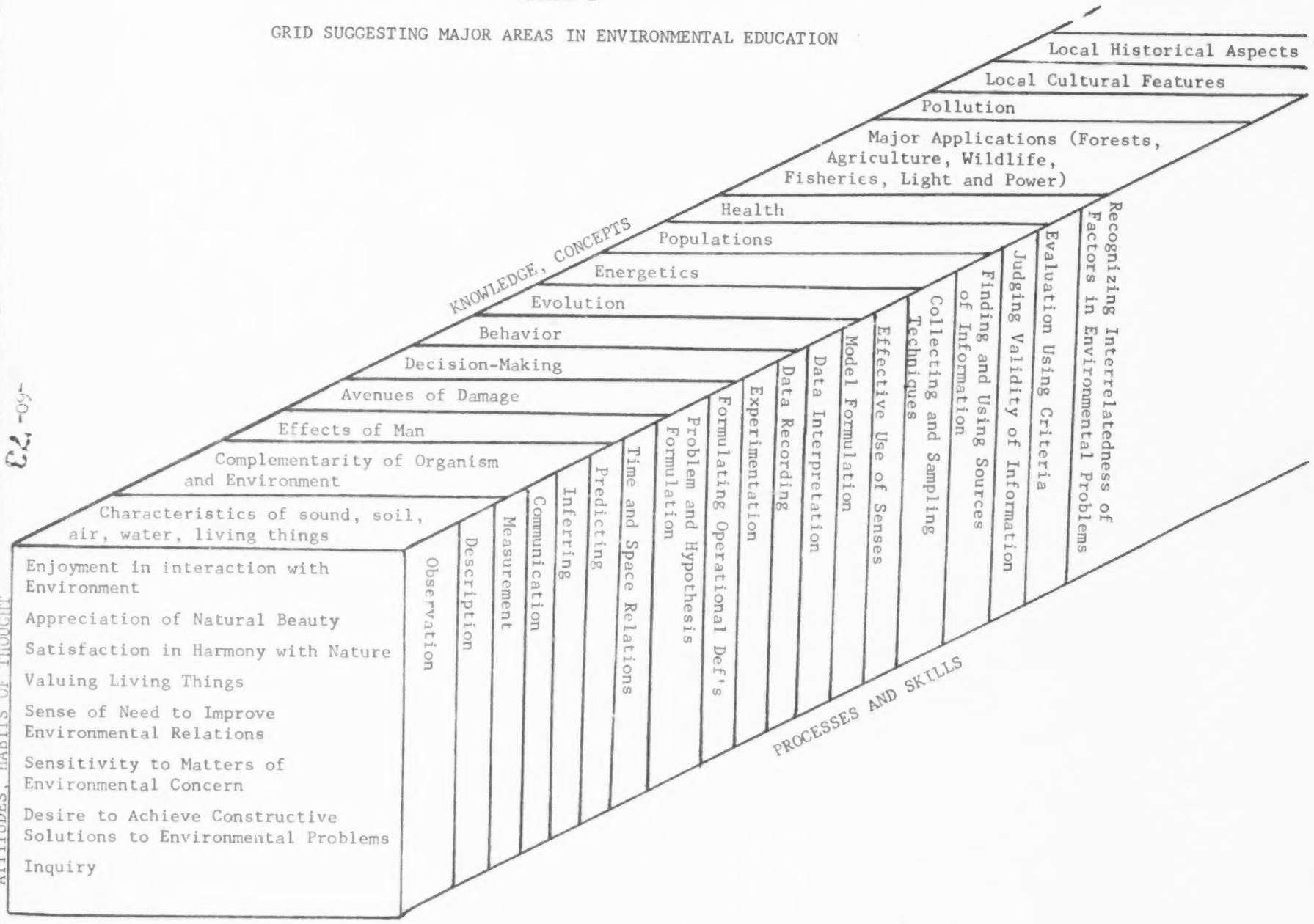
Environmental Education, on the other hand, is beginning to define its objectives in behavioral terms and provides a sound direction for curriculum development and the incorporation into it of instructional strategies which develop behavioral changes.

It appears that environmental education must be an attempt to alter the behaviors of modern man by persuasion. There may be differences of opinion regarding the form this persuasion should take. Perhaps one individual will be persuaded on the basis of individual inquiry; perhaps another is persuaded on the basis of appreciations developed in contrasting environments. In any case, the individual is to be persuaded to behave in a manner less detrimental to and more in harmony with the environment than the past behaviors of modern man have been. We might expect these behaviors to be expressed in at least two forms: (1) behaviors implying concern about the effects of personal environmental destruction; (2) behaviors implying concern about the environmental destruction caused by others. These are rather general statements, but as those who have been involved in curriculum development can recognize, the specific behavioral objectives of environmental education will be very numerous.

Major Areas of Consideration in Initiating Curriculum Development in Environmental Education: In Figure I we see some of the major areas of consideration by which we could arrive at behavioral objectives for environmental education. The activities and experiences of environmental education would constitute the volume of the grid and a given experience (visualized as being within the box) would normally have components in each of the three dimensions. In some cases attitudes might be more heavily emphasized and in other cases

FIGURE I

GRID SUGGESTING MAJOR AREAS IN ENVIRONMENTAL EDUCATION



one of the other dimensions might receive more attention. Such an encompassing view of objectives is appropriate if people learn individually and are persuded individually through a variety of means.

Certainly the grid of Figure I should not be seen as complete or final. As our understanding of environmental education develops, additions, deletions or other modification may be necessary. The point is that if major behavioral outcomes are to be realized, decisions will need to be made regarding emphasis upon these three dimensions in the educational experience. Furthermore, activities should be analyzed to ascertain their strengths in each of these three dimensions to avoid a curriculum heavily imbalanced with respect to any one of them.

Figure II is an attempt to illustrate some of the major relationships involved in environmental education. At the center of the scheme are the individual and the environment which interact as indicated. Associated with the individual are a number of Areas of Consideration within which we can specify particular behavioral objectives. Also associated with the individual are the various types of activities (Educational Techniques) in which he will be participating so that he gains experience in the performance of appropriate behaviors.

Associated with the environment are various Areas of Information to which the student will be exposed and within which we can specify particular cognitive behavioral objectives. Also associated with the environment are examples of environmental settings.

Illustrative Behavioral Objectives: Let us consider some specific examples.

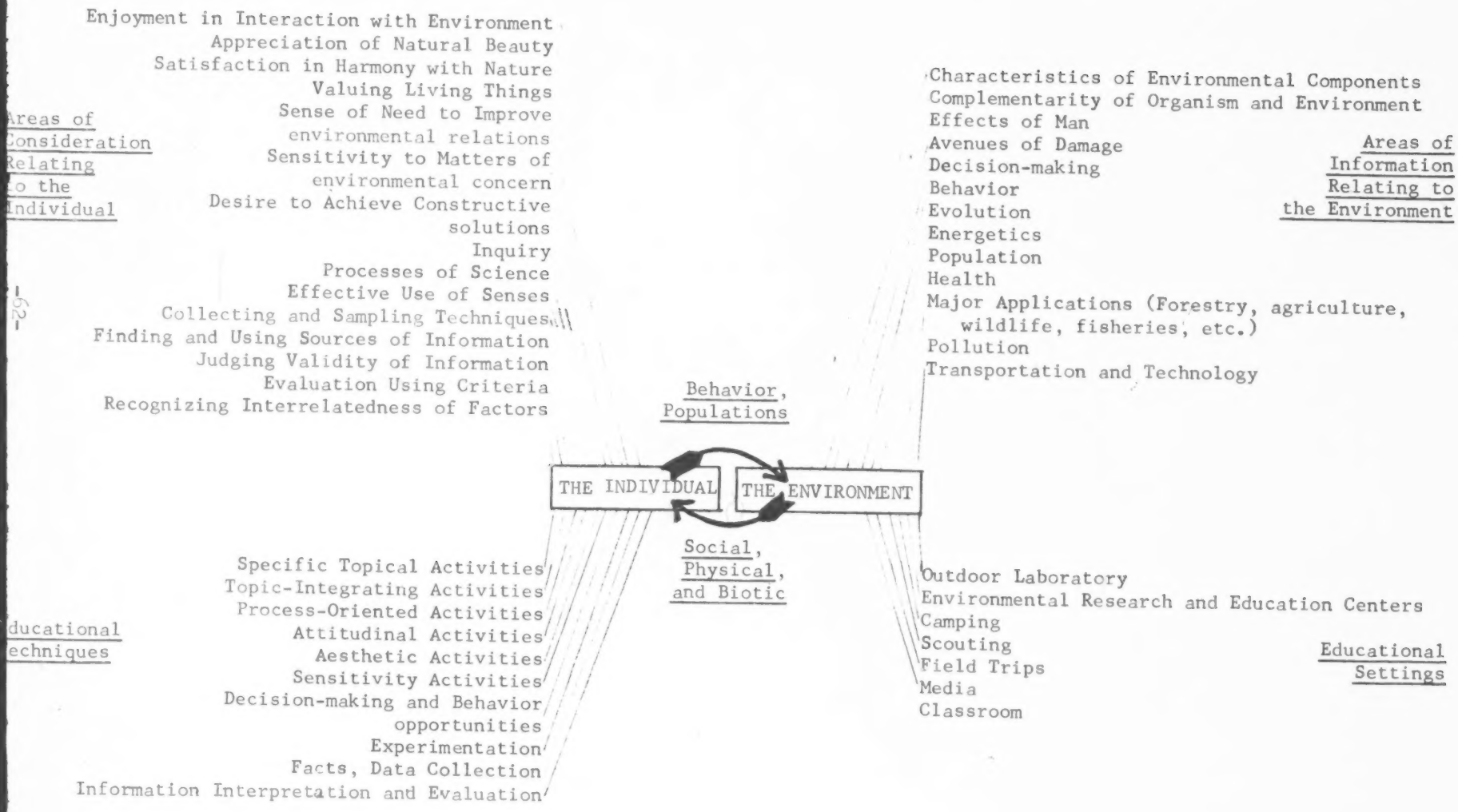
1. For the primary grades, let us consider the following behavioral objective: "The child will respond enthusiastically and provide reasonable answers when asked what he enjoyed about the walk he and his classmates took through the woods."

2. For the intermediate grades, let us consider the following behavioral objective: "The child will spontaneously or voluntarily suggest the need to revise population growth downward, based upon his interpretation of population data provided."

Behavioral objective #1 may deal with enjoyment in interaction with the environment, appreciation of natural beauty, or valuing living things. In any case, the dimension of attitudes (Figure I) is represented. Though other concepts or knowledge might also be represented, the child will usually provide an interpretation that touches on sound, soil, air, water, or living things, thus representing the dimension of knowledge and concepts. Observation and description are typically called for in the achievement of this behavior. (processes and skills). To repeat for emphasis, the above does not suggest that each behavioral objective will have equal impact in all three dimensions of the grid (Figure I); indeed, this would be unnecessarily difficult to accomplish. However, broad goals and specific behavioral objectives should be developed and implemented with an awareness that all three dimensions must be regarded in curriculum development.

FIGURE II

PRELIMINARY SCHEMATIC OF MAJOR RELATIONSHIPS
INVOLVED IN ENVIRONMENTAL EDUCATION



If we look at how the relationships described in Figure II are dealt with by this example, we see that the attitudes and processes described above are covered in the Areas of Considerations. The information about the environment, stated or implied by the individual, partially described the environment (Areas of Information). Quite likely the teacher would consider the activity to have an attitudinal, aesthetic, and sensitivity orientation, though it could be a combination of others as well. The setting was a field trip, although it may also be taking place in an outdoor laboratory or other specifically designated facility.

It should be apparent in the example provided that there is an environmental influence upon the child through the social, physical, or biotic context that is provided. It is also clear that achievement of this specific objective is consistent with our over-all goal of persuading the student to behave in a manner less detrimental to the environment, though the two are certainly not synonymous. This transfer of behaviors will continue to be very difficult and much will continue to depend upon teacher strategies and behaviors.

In the second behavioral objective provided above for illustrative purposes, the child provides evidence that he senses the need to improve environmental relations. The knowledge or concepts reflected depend upon the nature of the data, of course, but population, pollution, effects of man, and "major applications" would all be fertile areas. Some of the processes likely to be involved would be inferring, predicting, problem-formulating, and, especially, interpretation of data. Attitudes, processes, and information can be related to the child and the environment (Figure II) in much the same manner as in example #1. The activity would probably be topical and focus on information interpretation and evaluation (Figure II). As described here, the activity could take place in the classroom.

To repeat, this model is not to be considered complete and final. Certainly use of it by teachers will determine how it should be modified and enlarged. Ultimately we would like teachers to arrive at a position where they could evolve their own models for environmental education and arrive at behavioral objectives that are consistent with their models.

a. Other Useful Strategies and Skills: Although the relative usefulness of certain techniques and skills to achieve particular behavioral objectives awaits testing, common sense tells us that some methods and skills, which have had a long history of success in programs of outdoor education and conservation education, should be programmed at the outset.

A teacher will be required to take children out into the field in order to examine environmental problems first-hand. In order to facilitate this activity, the teacher will be trained to use mobile learning laboratories or classrooms which are equipped with laboratory, apparatus and other related learning material, e.g., films, books, models, maps, etc. (See pages 51-53 for an amplification of what these mobile units are capable of providing.) The teacher will require training in skills that allow him to perceive and to analyze a particular environment in a number of ways: physically, ecologically, historically, socially, economically. In this way he will be able to inventory his own community for district use.

In order for him to lead the students to this same level of awareness, he must be skilled in discovery and inquiry techniques and must be familiar with a variety of learning strategies which address themselves to higher thought processes (Taba), to problem-solving (RUPS), and to Interpersonal Communications.

Laboratory skills, such as those to test the quality of the air and water or for soil analysis, are a vital part of training if a teacher is to be equipped to approach environmental problems from a number of ways. He should also become familiar with the variety of media available for educational purposes and should be allowed to create whatever seems appropriate to achieve a particular behavioral objective, be it a film or a three-dimensional model, a graphic overlay, or even a game.

Many of these teachers will be filling a new kind of role when they return to their districts and will require training in how to set up similar programs on the district level. All that this implies, from writing a course description to conducting field trips with teachers, must be programmed into the training design if the teacher is to carry on these new responsibilities.

b. Perception Training: Most studies on perception of environment are confounded by what elements in an environment are behaviorally significant. We are far enough along to realize that our perception of the environment is not what it could be and that the ways in which we behave, the way we learn and the way we communicate, are the product of a number of things we have not as yet identified as important.*

Training in perception and investigation of what elements of the environment modify the way we think and behave are important considerations without which a pilot program of environmental education would be incomplete.

The cost of carrying on perception training is high when compared to traditional training programs and when conducted only on a pilot basis. The need, however, for at least one center within the state to test optimal learning conditions for perception training must be subsidized if any kind of significant progress in our educational system is to realized. The implications that perception training may have on learning may be tremendous and, in the end, may even reduce the cost of educating each child. It is recommended by the Center that similar programs be set up around the state, at other environmental education centers, at the Seattle Science Center, at state parks, at any site to which the public goes, after testing of it on a pilot basis is completed.

What can perception training do and what special facilities are required? Three special spaces are programmed to provide experiences to teachers and their pupils in the ways that the environment affects the way that they live,

*A study recently described in a Seattle newspaper claims that learning increases when it goes on in a yellow room. Although such a claim seems superficially prepostrous, what if it is true? And if it is true, what other unrecognized factors in the environment change the way we behave and the way we learn?

in the way that they relate to other people, in the way that they feel about themselves, and in the way that they feel about their immediate environment. We call these spaces:

The Anechoic Workspace
The Space/Time Continuum Workspace
The Spatial-Experience and Space Change Workspace

We can teach a great many things by books, by models by training aids of all kinds, and by direct discussion or lecture with teacher and pupils We all know, however, that certain kinds of learning are achieved best by direct experience, one which allows the learner to internalize directly what is going on. Some kinds of experience, some kinds of lessons, cannot be adequately described at all, and must be experienced or perceived by the learner if learning is to take place. Unfortunately, even though many of the kinds of learning that fall into this category are vital to our understanding of the environment, and vital to life itself, they have been slighted in the past because of the difficulty of creating the experience, and because of the lack of knowledge of how to go about it. Only recently have organizations such as the Environmental Ecology Laboratory in Boston conducted these experiments; they have built some mock-ups of prototypical "experience spaces" so that we now have some sense of what has been missing in this area of education.

The Anechoic Chamber. People who can hear often do not appreciate the value, the importance, and the need for sound in their lives (Attitudes, Habits of Thought, see page 60). Certainly people do not appreciate how sound affects the way they relate to the world, and to each other. In the Anechoic Chamber on the site, we will be able to take small groups, of from five to 10, and give them the experience of shutting out all outside sound. They will be in a place so quiet that even their own living sounds, of breathing and moving clothing, are soaked up. Then new sounds can be introduced, creating a new aural environment. They can come to understand how their tone of voice, their feelings, their sensations, their emotions are affected by the sound and acoustical quality of the space surrounding them, and understand that they live in, respond to, and are dependent upon an aural environment (Knowledge, Concepts). With this experience, lasting a relatively few hours of instruction, they will be able to make judgments about rural sounds, urban sounds, personal sounds, animal sounds, bird sounds, nature and natural element sounds, about airplanes and vehicles, about office machines and work machines, that would not otherwise be possible. They could also be asked to speak in more favorable or positive tones (Processes and Skills). How many people really understand what it is to be alone, in real quiet, quiet deprived of all normal sound background? What does this do to our sense of security, of comfort with ourselves? We will be able to increase these perceptions and many others in the Anechoic Chamber. We do not need a chamber of very high specifications to accomplish this, although it will probably be encased in massive concrete, and buried under a building for shielding against the noise of the nearby jets.

The Space/Time Continuum Workspace and the Spatial-Experience and Space Change Workspace. In normal life we accommodate unconsciously to the elements of the normal environment, to sound, temperature, air movement, etc., so that we are never really aware of how we adapt, or of the prices we sometimes pay by this adaptation. The environment may, in fact, be hostile to us, but we may be unaware of it because of functions we have assigned to ourselves to perform. By concentrating on specific elements of the environment, by drawing strongly on their specific characteristics, and making possible a review of the student's response to them in isolation from the rest of his environment, we can achieve a "perception breakthrough" in the student, and a sharply heightened understanding of the components of his environment.

In this spaces we will be able to show the student the consequence of other aspects of his environment. We will be able to take a group of teachers and students and seat them in a room. The characteristics of that space can then be changed while they are at an activity, and we can help them to see how they changed in feeling (Attitudes, Habits of Thought), and in the way they went about their activity, as the environment changed (Knowledge, Concepts; Processes and Skills). For example, we could drop the walls quietly out of sight. The whole quality of the lighting would also change, and the absence of reflective surfaces to bounce voice sound back would have a tremendous influence on the way the discussion was conducted. Then we could bring up windows, so that light remained roughly the same, but outside air movement and sound were eliminated. Then the walls would return, and we could darken the room and see what light level changed.

We can also project on the walls a series of contrasting environments. We could begin with a living room environment, followed by images of a city street, with the sounds we associate with it, to be followed by images of a rural environment, with its natural sounds and man-made sounds. Comparisons of similar yet slightly different settings can be made: for example, a suburban shopping center, a downtown shopping street, and then a Middle-Eastern market place could be created on all four walls with the noises peculiar to each being piped in. The student's experience with each, and discussion by them of the differences (Processes and Skills) and the effect of these differences on their feelings about themselves and of each other as a group (Attitudes, Habits of Thought; Knowledge, Concepts) are critical data. In each case, the students will experience directly the changes in their own perceptions of the environment, and the ways they acted differently, because of those changes in the environment.

We also want to show how the presence of or absence of a wall surface close behind one changes how one feels about other people, and how the overall change in room size changes the sense of intimacy--openness that exists in the group.

In the space-time continuum experiments we also want to be able to recreate experiences over a period of time, to show how the environment is an ecological process (Knowledge, Concepts). For example, we want to be able to recreate the bog they have visited on the walls around them, complete with the associated sounds, and then go back in time with slides and sounds that show what it was like as a moraine (perhaps showing slides of the moraines around Nisqually Glacier); then we show images of a lake, and then of the development of a bog, and so create learning experiences of an intensity and of a relevance to the site that are not achievable in other ways. In this work we would also be experimenting and developing techniques for use in education generally, but, of course, with particularly crucial relevance to environmental education.

c. Learning Stations. A network of learning stations are proposed for the site which will function as investigative centers for the study of particular environmental problems (and their solutions) or environmental concepts. Although an extensive listing of the kinds of stations was one of the accomplishments of the second task force, it was the opinion of the group that extensive research into the activities and facilities of any one of them is a prerequisite to their development.* For illustration, however, a few of the recommended stations will be described and related to the model for the achievement of behavioral objectives (page 60). It was agreed that a station for the study of air quality was critical. If we refer back to the grid, we can see that this station would relate directly to all three components. Under Knowledge and Concepts, we find "Characteristics of sound, soil, air, water, living things", "Effects of man", "Avenues of damage", "Health", "Pollution", and others. Under Attitudes, Habits of Thought, we find that "Appreciation of Natural Beauty" and "Sensitivity to Matters of Environmental Concern" are among the possibilities. Under Processes and Skills, we can identify "observation", "description", "measurement", "data recording" and others. A complete definition of the behavioral objectives for this station must await further study and testing, although some of the more obvious ones would probably be: "The student will distinguish between natural air pollution and man-caused air pollution." "The student will recognize the relationship between air pollution and respiratory disease." "The student will be able to test, measure, and compare the quality of air in a rural setting and in an urban setting."

A station can be designed to study a particular ecological concept such as the load limit or carrying capacity inherent in any ecosystem. Another station could be concerned with language and communication as they are affected by the environment. A population learning station; a greenhouse; a station to study animal behavior; a station for the examination of the forest as a whole system; a station concerned with aesthetics and human creative arts and others are proposed.

*The creation of "miniature worlds" at the recently completed Biotron Laboratory (University of Wisconsin) for the study of environmental problems is not the kind of task the stations would be carrying out, but it is mentioned here as an example of the kind of innovative program that is being initiated.

Although it would be premature to establish the function of these stations at this point in time, the task force agreed that they must be solution-oriented, so that positive alternatives can be examined and judged.

Although the stations are largely academic in orientation, they will be able to serve a function similar to that of the special stations, e.g., Anechoic Chamber. The teachers and students will be placed in situations where the nature of environment and their own role in it are perceived by experience. This perception will then be enlarged and developed through immediate review of it by the participants, or by experiencing an environment that is in contrast to the first. Observation of the reactions of others around one, particularly the public school students, will be an important factor.

The training in perception will occur in a variety of facilities, from a simple trail to a highly sophisticated laboratory. A variety of outdoor field stations will be located throughout the site close to subjects of particular interest--bog, meadow, tree, insect, or earth. Ecology, or the study of the interdependence of all living things, including the student, will be emphasized. Use of the field stations will be highly programmed to avoid the danger of destroying the natural environment by a heavy impact of people. Simple field trails with protected observation points will be necessary. Some will need to be well-developed: large enough for a group of 10-15 students, and leader and observers, to hold "class" for an extended time throughout the year. It is important to construct them in such a way that they are free and open to the natural environment, but can protect the class during a light rain or chill by radiant heat and canvas screening. A platform on poles, just over the vegetation or water, or in the trees themselves, will be appropriate in some places and will allow life to go on underneath the platform without interruption. In this way students will also see how man can impose himself on the natural environment without destroying it. Perception of the area will be enhanced through the use of inquiry and discovery techniques that lead students to an awareness of the rules that govern the vitality of an ecosystem.

A room depressed in earth, bog, or bay to reveal its form of life through glass may be called for in other places. The function and requirements for each will have to be carefully developed, and its structure carefully designed to minimize the destruction wrought by construction and construction access.

It will also be desirable to have a more highly sophisticated learning station close to a natural field station, where a group can retreat to perform related laboratory work and to discuss findings. The design requirements of these will vary with function, but will tend to be more enclosed at times to protect laboratory equipment.

Technology is as much a part of our contemporary ecology as is "nature", and is as dependent upon environmental or "natural" factors as is a wilderness. The design of facilities even at natural field stations will be such as to show that one does not have to deny modern technology in order to function unobtrusively and compatibly with nature and the earth. Man's own use of and dependence upon ecological systems can also be illustrated through the very facilities the students occupy and use. Food service in particular would be designed to illustrate the food cycle--the state in which it arrives (and gardens can be at hand and farms toured), the preparation necessary for human consumption and reasons why, the body processes, and, of extreme interest today, the waste disposal/sewage problem. Kitchens can be enlarged and designed so that students can enter and observe, and in some functions participate; at cookouts the students will do everything. The garbage can areas can be examined as closely as a traditional text; sections of disposal lines can be transparent plastic, and the sewage plant can be toured. Other facility systems such as heating and power will be revealed by descriptive mounted signs so that "instruction" is not necessary--they will be perceived as they are lived with and lived by.

4. Services.

a. Multi-Media Resource Center.

The Northwest Environmental Education Center has been in correspondence with all of the state offices of public instruction across the country, inquiring about their programs of environmental education. Although materials abound for programs of outdoor education, most state offices are only beginning to consider environmental education as something different from and broader than outdoor studies. If materials are an outgrowth of program planning, then the development of environmental education materials, e.g., texts, films, slides, has not taken place to any measurable extent.

To be effective in the use of available materials and in the creation and preparation of others, teachers at the site must have available a resource center to which they can go. Supervision of these activities will require a full-time multi-media coordinator who has a background in library science as well as skills in the creation of media. An assistant to the coordinator will be required as activities on the site become fully operational. The use of the multi-media resource center will be available statewide.

b. Testing and Measurement.

A search will be undertaken for all available test designs and surveys which attempt to measure attitudinal and behavioral changes. Instruments to

measure these changes will be designed at the site and will be field-tested throughout the region on experimental and control groups.

An instrument to measure environmental awareness has already been created for the Sedro Woolley project (ENVIRONMENTAL EDUCATION ON THE COMMUNITY LEVEL) and will be tested on the Sedro Woolley faculty as well as on control groups, i.e., faculty within another district, community groups. Administration of it this Fall and again in the Spring will demonstrate whether or not the particular staff improvement and development program offered at Sedro Woolley has increased the faculty's level of awareness. Do control groups change in any way? Is change a function of education or of other variables, such as the possible widespread publicity on environmental issues during the legislative session in January or February 1971?

These activities will require a full-time research analyist who has a doctorate in psychology or broad experience in test design and measurement. This person will also evaluate the activities at the learning stations and will assist teachers in the design of testing devices.

c. Implementation.

Implementation of a program of environmental education region-wide is made possible through a staff improvement and development program that is designed to produce three levels of competence among teachers in environmental education. As teachers return to their districts in their new roles, orientation of the remaining teachers will be greatly facilitated. And as environmental education concepts begin to become a part of most school programs, implementation will have then reached the student population. Site activities will be conducted in some cases like a regular school district so that mock-ups of schedules, transportation plans, financing, etc. can be adjusted to solve the special internal problems of each district.

It is hoped that visitation to the site by school personnel and community groups to observe the involvement of students, teachers, and other adults in the training process will also facilitate exportation of the model programs to districts within the region and elsewhere.

An Environmental Education Institute during the Summer of 1971 and 1972 for 50 public school teachers each summer from districts within the region is proposed to facilitate implementation on an off-site basis. The Institute will be sponsored by the Northwest Environmental Education Center and Huxley College of Environmental Studies and will be held on the campus of Western Washington State College. This 9-week Institute is designed to prepare teachers to be more effective in the classroom and to provide a foundation for those teachers who may become school specialists or district specialists.

Relevant courses offered through the Department of Continuing Studies, Western Washington State College, will provide additional opportunity for teachers to become competent in the classroom. The Center recommends that costs for 50 teachers/quarter be partially subsidized by state funds and that remaining costs be matched either by the individual or his district.

The program at Whidbey Island has the potential for serving people other than school personnel. The State Department of Parks and Recreation, for example, would like to provide training for those park rangers who would be responsible for conducting educational programs at park sites. Not only could the Center provide such training, but in this way could increase awareness among districts of the important role that state parks, and other kinds of parks, can play in an environmental education program. This kind of ancillary training program will be investigated as the site becomes operational.

d. Dissemination.

Dissemination activities will include:

1. Workshops, seminars, symposia for teachers within the region to keep them up to date on current research, recently developed materials and to distribute information on other model programs of environmental education within the state and throughout the country; to demonstrate new teaching methods and strategies; and to present papers on successful investigations and teaching units.

2. Visitation by school personnel to the Whidbey Island site to observe field testing of new programs.

3. Development of community programs within the school districts of the region to assist the community in its study of environmental problems and to introduce the community to environmental education concepts.

4. Publication and dissemination of learning packages, inventory studies, and other materials to school personnel and other interested individuals and groups.

e. Evaluation.

Although evaluation is built into each major program, i.e., teacher competency, curriculum development, a word should be said about the need to look at environmental education in an open-ended way. It is a new program, and will continue to grow and evolve as we gain experience. Evaluation of this process and of the success of the program in adjusting to new information and ideas will be an ongoing administrative responsibility.

5. Personnel: July 1971 - June 1973

a. Administration.

Board of Directors. Direction for the activities at Whidbey Island will be provided by a Board of Directors. This Board was incorporated on March 25, 1970, at the request of the State Office of Public Instruction. It appears that a local board is the most feasible way of providing direction for any kind of regional program. Its members are representatives of

local school districts and local agencies, and they are in an ideal position to direct programs and to coordinate activities between the different educational institutions. It will be the function of the Board of Directors to interpret the regional program to its schools and to coordinate its activities with the State Office of Public Instruction.

Executive Director. The Executive Director will coordinate environmental activities at the Whidbey Island site and throughout the region. He will oversee negotiations for contract services, including program planning and facility development, and act as liaison between the Board of Directors and the State Office of Public Instruction.

Assistant Director. The Assistant Director will be responsible for coordination of programs on the community and county levels and will assist with coordination of the program at the site. This person will also be responsible for disseminating information about the activities at the site throughout the region and the state.

Secretarial Staff. A full-time office manager and a full-time secretary will assist the administrative staff as well as the professional teaching and professional support staff.

b. Professional Teaching Staff.

Five college-level instructors will direct the learning activities at the site for a teacher and student population of approximately 150.

c. Professional Support Staff.

1. Multi-media resource center coordinator (see page 69).
2. Research analyist (see page 70).
3. Food service director. This person ideally with be a teacher who can operate the food-service facility as well as direct some of the educational activities related to food. This person will require two full-time assistants.

4. A senior behavioralist, with a strong background in perception training, and an assistant will be required to direct the activities at the special workspaces, i.e., Anechoic Chamber.

d. Technicians.

Three technicians will be required to operate the audio-visual equipment and to operate and monitor the special workspaces: An audio-visual technician; an electrician; an electronics technician.

e. A Maintenance and Custodial Staff of five will be required.

f. Non-Resident Personnel.

A non-resident program will be open to visiting research groups who propose to conduct contributive investigations at the site. (The five-man inventory team would be included under this category.) Consultants will be brought to the Center from time to time as needs arise on a contract basis.

PERSONNEL AND POPULATION

	Total number by June 1973	Total number by June 1975
A. Administration		
1. Executive Director	1	1
2. Assistant Director	1	1
3. Secretarial Staff	2	4
B. Professional Teaching Staff	5	10
C. Professional Support Staff	5	6
1. Librarian/Multi-Media Coordinator		
2. Assistant to the Librarian (by 1975)		
3. Food Service Director		
4. Research Analyist		
5. Senior Behavioralist		
6. Assistant to Behavioralist		
D. Technicians	3	3
1. Audio-Visual Technician		
2. Electrician		
3. Electronics Technician		
E. Maintenance and Custodial Staff	5	5
F. Non-Resident Personnel		
1. Visiting research groups	10	20
2. Consultants	2	3
G. Trainees		
1. District Specialists	12	12
2. School Specialists	12	12
3. Short-Term Trainees	12	12
4. Public School Students	120	240
TOTAL	190*	329*

*This total includes non-resident participants (Item F).

6. Why Should a Pilot Program of Environmental Education Go on at the Site on Whidbey Island?

Dr. Wallace Heath, Chairman of the Intercampus Educational and Scientific Preserves Committee, which represents five institutions of higher learning, addressed himself to this question in a letter to Mr. Bert Cole, Commissioner of Lands, Department of Natural Resources, in June of 1969.

Dr. Heath points out to Mr. Cole that "over half the natural area sites near our campuses have been eliminated in the last five years....It is no longer possible to take students even to a pond or marsh or old stand of trees within the confines...of our campus." He goes on to say that we have reached a point when it is no longer possible to expose the student to a natural setting within the normal provisions of the curriculum and "yet these are the very students who are expected to go forth and teach youth the importance of our environment." Dr. Heath describes the site as one that offers both the "variety and proximity of natural habitats for a well-rounded educational experience" as well as "the size and isolation required for the kind of studies to be conducted there." (Although Dr. Heath limits his concern to the college student in his letter, the same kind of concern can apply to the public school student, 60% of whom do not go on to college.)

Where is the site and what are its physical features? This 600-acre site is located on the north end of Whidbey Island on Saratoga Passage. The island is accessible from the north on State Highway 1-D over historic Deception Pass Bridge from Anacortes, and from the south by the Mukilteo-Columbia Ferry.

The site is also accessible by both water and road. The road to the site is a hard-surfaced one, and the road on the site is an improved graveled road. A shallow draft boat can be used to reach the site by water, as the beach gradient is a gentle slope from the shoreline to deep water.

Included in the topography of the site is a hilltop of approximately 490 feet, which slopes to the shoreline in a series of benches. The average gradient is 1 foot to 10 feet. To the east, the hilltop affords a panoramic view of the Cascade Mountains. To the north, the view is an industrial contrast of modern oil refining and ancient Indian fish trapping methods. There are several gullies with intermittent drainage to a one-mile salt-water frontage. The beach, which will be used for estuarine studies, extends along the entire eastern boundary for a distance of approximately one mile. The upper beach consists of small gravel. The lower beach consists of silt at low tide. There are two well-developed bogs, one of which is at least 36 feet deep, with 8 feet of matted material on top. The vegetation is mostly second growth conifers of up to 120 years of age with a wide variety of ground-covering plants common to the Northwest.

Although the estuarine beach and the bogs lend themselves to special studies and make the site particularly valuable, it is its large size and relatively undisturbed state which make it highly desirable as an environmental education center. The kind of program proposed calls for a natural setting large enough to contain 200-250 people so that activities for these numbers can go on without damage to the area. Even construction of facilities will be approached in an entirely new way to demonstrate that man can interact with the natural environment without destroying it in the process. To the

best of our knowledge, no existing institutions within the northwest region of the state can offer these advantages. Western Washington State College, and other educational institutions within the region, as well as county and state parks, have been developed and are being developed with other purposes in mind. For this reason the Center finds them to be unsuitable locations for this program.

The programs called for also require facilities that simply do not exist at this time within the region. A platform over the bog or a space/time continuum workspace, to mention only two of many learning stations, are not available within the region, and accessibility is important.

Why must the area be natural? If man is to reach some perspective on how he relates to the environment, both temporally and spatially, he must have a point of reference, in this case (and in most), the unaltered natural environment. The natural setting provides dramatic contrast to the man-made world and would facilitate those behavioral objectives that have to do with making judgments and solving problems. How can we know where we are, if we don't know where we've been? Man's adaptability to an increasingly polluted world may be his undoing unless he has a touchstone for measuring a quality environment.

The natural world is important to understand what a system is, be it simple or complex, and what laws govern that system. Examination of the flora and fauna within a forest and how they depend on each other for regeneration and survival makes it easier to appreciate how dependent we are on our world for our own regeneration and survival.

The program at Whidbey Island will be breaking some traditions as it directs its energies to attitudinal and behavioral changes and to a new way of learning. A resident program is planned not so much as a convenience but because communication between people as they learn has been so limited within the traditional setting and system. By living on the site for a designated period, it is hoped that the amount of time it takes to break down these barriers between people will be reduced, so that serious learning can begin.

The Carnegie Foundation recently published a study defining American education as "oppressive". It would appear that books such as How Children Fail and Schools Without Failure and the Featherstone series of articles in The New Republic were understating the case.[2-12] This new program, if it is to work, must be allowed to function under optimal conditions so that it can provide an educational alternative. The setting and the facilities support the program, and should be considered an integral part of it. For this reason, it has to happen on Whidbey Island.

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7. Program Budget

	July 1971 - June 1972	July 1972 - June 1973	
a. Substitute pay to districts which release their salaried teachers for participating in staff improvement and development programs at Whidbey Island.			
Approximately 500 teachers (16 District Specialists, 52 School Specialists, and 432 Short-Term Trainees) will be on site between September 1, 1971 - and June 1, 1972; the same population will be accommodated between September 1, 1972 - June 1, 1973.*			
District Specialist = 120 days x 16 = 1,920 days @ $25/day	$ 48,000	$ 48,000	
School Specialist = 40 days x 52 = 2,080 days @ $25/day	52,000	52,000	
Short-Term Trainee = 5 days x 432 = 2,160 days @ $25/day	54,000	54,000	
	$154,000	$154,000	
			$ 308,000
b. Environmental Education Institute, Summers of 1971-72: 50 teachers/Summer. Cost includes:			
1. Administrator @ $1,250/month for 3 mths.	3,750	3,750	
2. Four faculty @ $3,500/teacher for 3 mths.	14,000	14,000	
3. Food and lodging for 50 teachers @ $75/week for 9 wks.	33,750	33,750	
4. Operating expenses which include office supplies, phone, publications.	1,400	1,400	

*Although the Whidbey Island program will be operational 12 months a year, substitute pay is only required for roughly 9 of those months.

	July 1971 - June 1972	July 1972 - June 1973	
5. Ten field trips/teacher @ $5.50/trip in groups of eleven (1 faculty/10 teachers)	$ 2,750	$ 2,750	
6. Tuition: 12 hours @ $15/credit hour = $180/teacher	9,000	9,000	
7. Travel for 2 faculty from other institutions; average round trip $150	300	300	
8. Secretary for 3 mths. @ $450/mth.	1,350	1,350	
9. Fringe benefits (12.3% for faculty and administration; 10.5% for staff)	2,380	2,380	
	$ 68,780	68,780	
			$ 137,560
c. Training of 50 teachers/quarter for 5 hrs. credit/quarter at $12/credit hour through Dept. of Continuing Studies, W.W.S.C. Total tuition/teacher/quarter = $60: State Contribution is 50% or $30/teacher; remaining costs to be matched by teacher or district.	$ 4,500	$ 4,500	
Five field-trip experiences for 50 teachers/quarter for a total of 3 quarters/yr. Group size will average 30-35 teachers.	5,000	5,000	
	$ 9,500	$ 9,500	
			$ 19,000
d. Services			
1. Operating expenses for multi-media resource center. Costs include the acquisition of printed material as well as equipment & supplies for development of others.	$ 25,000	$ 20,000	
2. Operating expenses for testing and measurement, and evaluation of program and curriculum development. Costs include test design, computer time, evaluation of teacher competency and of models for achieving behavioral objectives.	15,000	20,000	
3. Implementation. Includes visitation to the site by school personnel and others for observation, and creation of mock-up procedures, e.g., scheduling, for each district.	2,000	2,000	

	July 1971 - June 1972	July 1972 - June 1973	
4. Dissemination.			
Workshops, seminars, symposia for teachers to keep them informed of current research and of recently developed materials, and to distribute information on other model programs of environmental education within the state and throughout the country; to demonstrate new teaching strategies; to present papers on successful investigations and teaching units. These activities will be region-wide, and open to all interested groups.	$ 10,000	$ 10,000	
Development of community programs within the 40 districts of the region to assist the community in its study and investigation of environmental problems and to introduce the community to environmental education. Costs reflect a $1,000 grant to each district to carry on community education.	40,000	40,000	
Publication and dissemination of learning packages, inventory studies, and other materials.	3,000	5,000	
	$ 95,000	$ 97,000	
			$ 192,000
e. Personnel and Related Costs			
1. Administration			
Executive Director	$ 20,000	$ 20,000	
Assistant Director	14,500	14,500	
Office Manager	10,000	10,000	
Secretary	6,500	6,500	
2. Five-man Professional Teaching Staff at an Average Salary of $13,000	65,000	65,000	

	July 1971 - June 1972	July 1972 - June 1973	
3. Professional Support Staff			
Multi-media Resource Center Coordinator	$ 14,500	$ 14,500	
Research Analyist	14,500	14,500	
Food Service Director	10,000	10,000	
Two Food Service Assistants @ $5,000/year	10,000	10,000	
Director of Perception Training Programs	15,000	15,000	
Assistant Perc. Training Director	10,000	10,000	
4. Technicians			
Audio-Visual Technician	8,000	8,000	
Electrician	12,000	12,000	
Electronics Technician	13,000	13,000	
5. A Five-Man Maintenance and Custodial Staff @ $5,200/year	26,000	26,000	
6. Fringe Benefits (12.3% for faculty and administration; 10.5% for staff) 12.3% of $163,500 = $20,110.00 10.5% of $85,500 = $8,977.00	29,087	29,087	
7. Contract Services			
A five-man inventory task force at $100/day for 60 days	30,000	30,000	
Other contractual services	10,000	10,000	
8. Operating expenses: Costs include travel, telephone, supplies, and miscellaneous services	30,000	50,000	
	$348,087	$398,087	$ 746,174

	July 1971 - June 1972	July 1972 - June 1973	
f. Planning money for expansion of the Snohomish County' Silverton-Waldheim Outdoor Education Laboratory to a regional laboratory	$ 15,000		$ 15,000
		TOTAL	$1,417,734

8. Facilities.

a. The Nature of Site Development.

Development of this site will be constrained and guided by the tolerance limits of the natural environment. The maximum design population will be the maximum that can use the site without unduly changing the natural environment. Zones of use will be established. A complex of facilities near the site entrance will have the most intensive and disruptive activity, including administrative and general staff operations, meeting spaces, general work spaces, resource center, and living units. Auto access will terminate at this point. At the opposite extreme will be the areas left completely "wild." Trails and observation points will be very carefully constructed in the "wild" zones so as to destroy as little as possible during their construction and to ensure that their continued existence and use will have minimal impact on the natural "wild" environment. The intermediate zone will allow many learning stations and "camping" points that provide outdoor experience that includes limited impact by man.

b. Phased Development.

Environmental education is new in what it intends to be and what it intends to do, and related activities will require a high degree of experimentation. For this reason both programs and their facilities will be phased, with each new phase of development based on the experience gained by the previous one.

The initial population on the site by the Fall of 1971 will average between 100-150, if investment is made in flexible modular units, and if contractual arrangements can be made with the State Department of Parks and Recreation for use of their resident facilities at Deception Pass (Coronet Bay; five miles from the Whidbey Island site). It is expected that these numbers can be housed at the site by the fall of 1972. Learning stations will be developed gradually, and will increase in number as we gain experience with them.

The objectives of phased development are two: 1) To become operational on the site with a new program in the autumn of the first biennium to meet the immediate needs of the districts; 2) To have incremental construction in a series of stages so that each unit can benefit from the experience of one or two recently completed units. This process would allow us to acquire knowledge about facility and to experiment with what kinds of facilities best support a growing and evolving program. This knowledge will be of benefit to any district or environmental education center in projecting their future building needs.

We, therefore, recommend the following three phases:

Phase I: Flexible modular structures will be brought onto the site for use over a period of years. If these structures should prove in time to be unsatisfactory as permanent facilities, they can be moved to a new site or to another regional environmental education center that is ready to become operational.

Phase II: An initial phase of construction should begin in June or July of 1972, or halfway through the first biennium so that some facilities will be available by the start of the normal school year (September 1972).

Phase III: The facilities for the next increment of construction should be available for occupancy by the end of the first biennium.

We propose three increments of permanent construction plus one increment of flexible modular structures on the site by the end of the first biennium. Thereafter, each biennium will experience three to four increments of construction until the site is almost completely developed. By the end of the second or third biennium, approximately 48 of the major learning stations will be operational. By following this plan the site will be operational with flexible modular facilities before ground is actually broken for the first permanent facility, and will be operational with the first permanent facilities before ground is broken for the third phase of permanent facilities.

The alternative would be to provide permanent facilities from the beginning. This would delay the program for at least one year, but would provide a higher level of facility. Incremental construction for design feed-back would still be used. Although this alternative is easier to deal with in concept, immediate construction of the complete long-term facility is an undesirable approach to a pilot program facility.

We do not want to build the various learning rooms and spaces all at once because our objective is to advance several stages beyond the present state of the art in such facilities. We would, therefore, build initially the very best we can in a quantity sufficient to become operational, and then, in a series of experiments and research projects, develop ways of improving the program and facility in each subsequent stage of construction. There will be a continuing flow of activity on the site and a continuing relationship with programmer and architect so that lessons learned in one facility can be applied to another which will be ready for occupancy 12 months after completion of the first. The schedule would be: operation and monitoring--3 months; design--3 months; and construction--6 months. Two or three such cycles would be in various stages at any moment.

Outline of Early Phasing:

1971 February 1st

Consultants authorized to start design work with one month of funding guarantee.

1971 March 1st

Programming and design in progress.

Legislative approval and funding received for programming and design work to July 1st.

Contract signed for programmers and designers to deliver, for a set fee, on the 1st day of the biennium (July 1, 1971) a complete design package for the initial increment.

During this period, contracts will be negotiated but not signed for construction, manufacture or lease of the initial structures.

1971 July 1st

Legislative funding of 1st biennium construction and operation.

Contract signed for initial structures. Action begins immediately to provide facilities as rapidly as possible (targeted for October); the facilities are moved to site, erected, and utility connections made.

Lessee signed with park service for use of Coronet Bay cabin and food service facilities during Winter and Spring. Limited number of cabins are assigned immediately and primary staff moves to them to begin program development on site.

Site development, utility systems and foundation work begin for permanent construction of 2nd increment of facilities.

1971 September and October

First facilities arrive at site on September 1st.

Facility is operational in October. Provides for office, studio, conference and seminar space, workspace, teaching rooms, resource center, etc.

Begin construction as weather permits of on-site platform, tent living facility, for occupancy in June 1972.

1972

Construct 2nd increment of facility for occupancy September 1972.

Staff, trainee and student living and food service facilities
2 Teaching stations - Learning Experiences
4 Teaching stations - Field Observation
1 Teaching station - Anechoic Chamber
30% Field observation and access trails

Construct 3rd increment of facilities for occupancy in June 1973.

C. A Breakdown of Facility and Equipment Costs.

1. The First Biennium Facility Program.

The construction in the first biennium will provide facilities for environmental education at one time for 12 district specialists, 12 school building specialists, 12 classroom teachers, and 120 public school students.

Construction will be incremental, starting with approximately 25,000SF of facility in a manufactured and removable structure, and using living facilities of the State Park Department at Coronet Bay. Construction of on-site living facilities and specialized learning spaces for permanent use will begin immediately. An increment will be completed approximately every six months.

The initial removable structures will continue to be used during the first bienniim, and will be replaced by permanent facilities at the beginning of the second biennium.	$500,000
The other facilities provided will include:	
12 learning stations - Learning Experience/Laboratory	239,000
12 learning stations - field observation	60,000
2 learning stations - anechoic and space change rooms	240,000
90% field observation and access trails	5,400
50% workshops and preparation areas (60% of cost)	185,400
100% A/V media preparation spaces	291,200
Partial living and 100% food service facilities	288,800
	120,000
	367,500
100% custodial spaces & 50% storage	40,000
All roadways and paths, and half of parking; 75% of landscaping, all of utility system	286,000
67% equipment & furnishings	600,000
	$3,223,300
+ project costs @ 15% approx.	486,700
Sub total	$3,710,000
+ contingency @ 10% approx.	371,000
Total	$4,080,000

CAPITAL REQUEST FIRST BIENNIUM OPTION 1971-1973

A. Interim Relocatable Facilities

Initial approriation, estimate (budgeted re-use value $200,000) approximately 30,000 sq. ft. equivalents for net cost of $300,000 = $10.00/sq.ft.

Includes:

Interim offices approximately 5,000 sq. ft.			
Interim media center and Resource center	4,000		
Interim food service	3,000		
Interim living quarters and student teacher work spaces	13,000		
Interim assembly space and related areas	5,000	equiv.	
total	30,000	sq.ft.	$ 500,000

Storage and equipment related activities in the interim relocatable facilities is included in the above totals for each activity area.

B. Temporary Sleeping and Food Service Facilities

Use Coronet Bay until Interim relocatable facilities are available (separate budget)

C. Construction of Instructional Stations for Use in 1971-72 Biennium

12 Low cost learning stations-field observation	$ 60,000	
Field observation and access trails	5,000	
12 Learning stations-learning experience/laboratory	239,000	
2 Learning stations-special environmental effect rooms, with associated circulation and services:		
Space/time Continuum room	120,000	
Spatial experience/space change room	120,000	$ 544,000

D. Roadways and Access

Parking	12,000	
Roadways	30,000	
Landscaping and rebuilding after construction damage	10,000	
Utilities	125,000	$ 177,000

E. Equipment and Furnishings

1. Food service equipment, tables and chairs
2. Living unit beds, bureaus, desks
3. Office furniture and equipment
4. Learning station seating, work tables, lab benches, etc. for 24 stations
5. Audio-Visual media center equipment, including models and projection units
6. Learning station special environmental effect rooms, technical equipment and media
7. Film, tape, closed circuit TV equipment, sound recording and playback equipment
8. Initial stock of films, books, and pre-recorded tapes, etc.

Resource Center $ 600,000

(Estimated total)	$1,821,000
Project costs 15%	273,000
	$2,094,000
Contingency 10%	210,000
	$2,304,000
Inflation 5% in 2nd year	115,000
TOTAL	$2,419,000

NOTE: Project costs are architects fees, program fees, surveys, administrative costs, clerk of the works costs, out-of-pocket costs, special charges for utility connections, legal expenses, etc.

2. The Second Biennium Facility Program.

The construction in the second biennium will expand facilities to allow new environmental education programs to be provided and to support additional school staff improvement programs. The public school student capacity will increase to 240.

Construction through the second biennium will be incremental, allowing continuing feedback from the existing programs and facilities to be the basis of improvement of the new.

The initial removable structures will be replaced by new facilities at the beginning of the second biennium. The original structures can then be transferred to other developing centers in the state to serve a similar purpose, for an estimated credit to the project of ($200,000).

The other facilities provided will include:	
100% seminar & conference spaces	$150,000
100% large assembly space	140,000
100% office work functions	227,500
100% resource center	698,500
12 learning stations - Learning Experience/Laboratory	239,000
12 learning stations - field observation	60,000
1 learning station - space/time continuum room	120,000
10% field observation and access trails	600
50% workshops and preparation areas (40% of cost)	123,600
Balance of living facilities	52,500
50% general storage	15,000
Site development	20,000
33% equipment and furnishings	300,000
	$2,146,700
CREDIT	- 200,000
	$1,946,700
+ project costs @ 15% approx.	292,300
Sub total	$2,239,000
+ contingency @ 10% approx.	221,000
Total	$2,460,000

3. Space and Cost Summary

SPACE AND COST SUMMARY

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
INSTRUCTION SPACES						
Learning Stations for Field Observation (pole structure, platforms, tent or roofed, in variety of forms and located in minimum-destruction field sites and in a variety of site conditions: average 350 SF each @ average $14/SF = average $5,000 each)	24			$5,000	$120,000	$ 120,000
Field Observation & Access Trails (simple trails over varying terrain including water; of sand, planking, stepping stones, or elevated)					6,000	6,000
Learning Stations (enclosed spaces for "learning experience with variety of specialized equipment, including lab benches, & with large scale audio-visual aids and models)						
For 10 occupants	8	360	2,880			
For 18 occupants	8	600	4,800			
For 30 occupants	8	750	6,000			
			13,680	$30	410,000	
Associated circulation & services @ 20%			2,720±	$25	68,000	
			16,400			478,000

SPACE AND COST SUMMARY - INSTRUCTION SPACES CONTINUED

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
Learning Stations - Special Environmental Effects Rooms						
(see description under "Perception Training")						
Anechoic Room	1				$100,000	
Space/Time Continuum Room	1				100,000	
Special Experience/Space Change Room	1				100,000	
					$300,000	
Associated circulation & services			2,000	$30	60,000	$ 360,000
Seminar and Conference Spaces						
(enclosed facilities at site entrance complex)						
Meeting rooms	3	200	600			
Seminar room	1	400	400			
Conference room	1	700	700			
Conference room	1	1,000	1,000			
Projection room	2	150	300			
Film/tape storage	1	300	300			
Support: costs, coffee, storage			1,200			
			4,500			
Associated circulation & services @ 30%			1,500			
			6,000	$25	$150,000	150,000

SPACE AND COST SUMMARY - INSTRUCTION SPACES CONTINUED

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
Large Assembly Space (enclosed assembly with high level audio-visual projection capability, at site entrance complex)						
200 occupant capacity space			2,000			
Stage, experimental			500			
Anterooms			800			
Projection			300			
Storage			1,000			
			4,600			
Associated circulation, lobby & services			1,000			
			5,600	$25	$140,000	$140,000
PREPARATION AND WORK AREAS						
Resource Center						
Book stacks & publications files			5,000	$30	$150,000	
Publications display & reading			1,000	$25	25,000	
A/V training aids library, with appropriate air conditioning & shielding			7,000	$30	210,000	
A/V training aids equipment, storage & checkout			600	$30	18,000	
A/V carrels			1,000	$20	20,000	
Reading area			1,500	$25	37,500	
Archives			1,600	$30	48,000	
Librarian's office			150	$25	3,750	
Cateloging, etc. workroom			200	$25	5,000	
Dissemination workroom			250	$25	6,250	

SPACE AND COST SUMMARY - PREPARATION AND WORK AREAS CONTINUED

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
Receiving and mailing			200	$25	$ 5,000	
Miscellaneous storage			1,000	$20	20,000	
			19,500			
Associated circulation & services @33%			6,000	$25	150,000	
			25,500			$698,500
A/V Media Preparation						
Closed circuit TV, film & slide preparation						
Studio, with special air-conditioning and 300FC (horizontal) lighting			1,000	$35	35,000	
Control equipment			500	$35	17,500	
Office			120	$35	4,200	
Office/workroom			200	$35	7,000	
Storage - props and misc.			1,200	$25	30,000	
			2,020		$93,700	
Photographic darkrooms						
Darkrooms			700	$35	24,500	
Related storage & support			1,300	$25	32,500	
			2,000		$57,000	
Graphic display & chart preparation						
Layout & drafting area			1,200	$25	30,000	
Photo & reproduction area			600	$30	18,000	
Storage			1,200	$25	30,000	
			3,000		$78,000	
			7,020			
Associated circulation & services @ 33%			2,500	$25	62,500	
			9,520			$291,200

SPACE AND COST SUMMARY - PREPARATION AND WORK AREAS CONTINUED

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
Workshops and Preparation Areas						
Metal work			900	$30	$27,000	
Wood work			900	$30	27,000	
Dry science lab			1,800	$30	54,000	
Wet laboratory			1,800	$30	54,000	
Chemical stores room			500	$30	15,000	
Instrument & electronic work			900	$30	27,000	
Storage			2,200	$25	55,000	
			9,000		$259,000	
Associated circulation & services @ 20%			2,000	$25	50,000	
			11,000			$309,000

SPACE AND COST SUMMARY

OFFICE WORK FUNCTIONS	No.	Unit Area	Total Area	Unit Cost	Total Cost	
Director	1	200	200			
Administrative Assistant	1	150	150			
Research PhD.	1	160	160			
Research Assistant	1	120	120			
Workroom/Visitors Room	1	250	250			
Visiting Research Teams						
work spaces	3	250	750			
offices	8	120	960			
District Specialist-Trainees	12	120	1440			
School Building Specialist-Trainees	12	90	1100			
Short-term trainees						
work room	1	250	250			
carrels	12	30	360			
Conference Room	1	800	800			
Secretarial Spaces						
4 secretaries	4	150	600			
reproduction and stockroom	1	300	300			
Reception space (visiting)	1	200	200			
			7,640			
Associated circulation & service @ 20%			1,460			
			9,100	$25	$227,500	$227,500

SPACE AND COST SUMMARY

	No.	Unit Area	Total Area	Unit Cost	Total Cost	
LIVING & FOOD SERVICE						
Apartments:						
Administration and professional staff						
2-bedroom	4 units	760	3,040	$20	$60,800	
3-bedroom	4 units	875	3,500	$20	70,000	
Teacher-trainees						
Dist. specialist (double occ.)	6 units@	600	3,600	$20	72,000	
School Bldg. specialist (4 person occ.)	3 units@	850	2,550	$20	51,000	
Observers/experimental (1 pers. effic.)	2 units@	300	600	$25	15,000	
Associated circulation & services			1,000	$20	20,000	
						$288,800
Sleeping units						
(students; trainees; observers, staff)						
Platform tent "campsites"	90 occ.			$200	18,000	
"cabins" @ 2/6/12 occupancy (adequate for winter)	150 occ.	100	15,000	$10	150,000	
Sleeping by "campsites" (variety of types, sizes & locations)	90 occ.			$50	4,500	
						$172,500
Central Food Service Facility (will be used for instructional purposes as well)						
Kitchen-storage, prep., equip., boxes., serv. line	300 meals	10	3,000	$80	240,000	
additional space for instruction			1,000	$40	40,000	
Dining room (2/section)	200 meals	15	3,000	$25	75,000	
Toilets & misc.			500	$25	12,500	
Instruction space, extra						$367,500
SUPPORT SPACES						
Custodial			400	$25	10,000	
Storage (inside equipment)			1,000	$15	15,000	
Storage (outside equipment)			2,000	$15	30,000	$55,000
EQUIPMENT & FURNISHINGS (includes 2 mobile learning laboratories and one conventional school bus)						$900,000

SPACE AND COST SUMMARY

	Total Cost	
SITE DEVELOPMENT		
Parking for 100 automobiles and 8 buses	$ 20,000	
Roadways		
access to site entrance complex	65,000	
limited number of board walkways for use by authorized vehicles only		
Pathways (excluding field observation trails)	6,000	
Landscaping		
landscaping public areas	40,000	
rebuilding natural field environment disturbed by construction		
Utilities		
including sewage treatment system	175,000	
everything developed for student observation		
	$306,000	$306,000
Initial relocatable facilities, net of $500,000 less $200,000		$300,000
TOTAL		$5,170,000
15% project costs (fees, surveys, etc;)		776,000
		$5,946,000
10% contingency		595,000
TOTAL PROJECT COST		$6,541,000

V. RECOMMENDATIONS FOR A STATE-WIDE PROGRAM OF ENVIRONMENTAL EDUCATION

A. The Northwest Environmental Education Center recommends to the State Office of Public Instruction that criteria for the selection of locations of future environmental education centers be established as part of its state plan. Based on seven years of experience in developing a plan for the northwest region of the state, the Center believes that the following considerations are important:

The State Office of Public Instruction has basically two options in the selection of environmental education centers: It can predetermine where such sites should be developed based on a set of criteria, or select the site(s) based on the attractiveness of applications from institutions to the State Office, again using some kind of criteria for judging the soundness of the applications. The Center recommends that if the first option were selected that criteria include physical and sociological uniqueness of the area and its proximity to a four-institution. In this way exchange programs between institutions can be facilitated.

If the second option were selected, the following criteria might serve as a guide for judging applications.

1. A feasibility study should be undertaken by the applicant to determine what educational institutions wish to become involved within the particular region. An examination of resources, e.g., sites, on-going pilot programs of any kind, availability of teacher training facilities, community interest, should be itemized to determine future needs. An inventory of the general physical characteristics of the region should be taken to determine its academic potential.
2. Financial commitment. An effort on the part of the institutions to raise planning money should set as its goal twenty percent of the total planning budget required. Once the State Office is satisfied that the institutions are committed to a center, then the remaining eighty percent of the planning money could be awarded to the institutions within the region.

B. An environmental crisis is before us, and environmental education seems to offer the most sound way of bringing about a change in the way we think and the way we behave toward our environment. As we know, it is usually many years between the initiation of an idea and the implementation of it, and even more years pass before a generation of students has gone through any new program, e.g., new math. For this reason, the Center recommends that the State Office of Public Instruction request from the legislature a large subsidy to carry on a state-wide staff improvement and development program in environmental education. The groundwork for this kind of in-service training is already laid in The Fourth Draft. Matching funds from districts and federal agencies should also be sought.

C. The Center recommends that the State Board of Education, together with the four-year institutions, reviews what should be required of the teacher in order to be certified to teach environmental education. Perhaps

certification is not necessary if environmental education becomes a part of all learning. The development of school specialists and district specialists, as spelled out in the Whidbey Island plan, does call for some kind of standard, however, that would call for discussion between the Board and the higher institutions.

Under the present system, a person must be enrolled for 4+ years in order to fulfill all the requirements of the State Board of Education and the higher institutions. A typical case is presented in the Appendix which illustrates the heavy academic load to be taken by a student who wishes to be an elementary school teacher and who wishes as well to go through the program at Huxley College of Environmental Studies. Even after all the basic requirements were met, the student had taken only enough hours in her major field to constitute a minor. (Obviously her ability to get a job is jeopardized, unless standards change.)

D. The Center also recommends that every public school teacher be required to enroll in at least one course of environmental education, be it on the college level or district level. It also recommends that a minimum of 15% of a faculty population within a district receive intensive in-service course work so that they, in turn, can provide similar courses for teachers on the district level.

E. The Center recommends that each region have a center to which teachers can go for training, and that efforts be made to encourage four-year institutions to develop undergraduate programs in environmental education. Centers should be set up to serve both pre-service and in-service programs. Undergraduates could perhaps accomplish part of their student teaching as interns at a center.

F. The Center recommends that community colleges be encourage to develop courses that will allow a student to transfer into a college such as Huxley, and that four-year institutions and community colleges work together so that the latter will, in some way, be able to offer in-service courses. This proposal calls for reconsideration of the role that community colleges can play in this state. To date, it has been the responsibility of four-year institutions to provide graduate courses or fifth-year courses. It would seem advisable, however because of the need to reach so many teachers, e.g., 4,500 in the Northwest region of the state, for community colleges to assume some of the responsibility.

G. The Center recommends that any program of environmental education be interdisciplinary, and that a portion of every school year be set aside for field trips in order that students and teachers can examine the region in which they live.

H. The Center recommended under Item "A" that some kind of active exchange go on between centers so that there can be a wide variety of experiences for both students and teachers. It also recommends that some kind of exchange program be set up between districts. For example, a teacher from the Sedro Woolley School District who is already familiar with the logging

industry but who is interested in marine biology might spend some time teaching at the Anacortes or Oak Harbor School District and vice versa. Flexibility and mobility within the educational system must be tested.

The Center would like to raise a question that it has had to face in drawing up this particular document. Because there is an overlapping of responsibility and interest between one institution and another, there is confusion over which agency should be applying for money. The common schools and community colleges and the four-year institutions are all interested in reaching the same people, the teachers and the students. It is hoped that some means can be devised that will simplify rather than complicate this dilemma.

A final broad recommendation to the State Office of Public Instruction from the Northwest Environmental Education Center concerns the way in which planning for a regional program can or should go on. The Center has turned to an architectural firm and to a program planner, in that order, for direction and has found these resources of considerable value. Of equal value, however, were those human resources to be found on the campus of Western Washington State College, in short, "our own "backyard." Individuals within an institution who are attempting to draw up similar plans for a regional center should look to themselves and to the resource people around them first for direction and guidance on how to proceed. In the end, teachers are probably the best resource to use in drawing up an educational program. This conclusion, as obvious as it is, was perhaps the most difficult problem the Center had to face over the past year.

We have experienced failure on a number of occasions, but believe that these setbacks are to be expected when a program is attempting to do so much. We hope that other planning groups will consult with us and profit from our experience. We have also enjoyed considerable success, not the least of which was substantial support money from federal and private sources. We interpret these grants, as acts of faith in what we believe is an important and sound program.

One last thought: Money from the Washington State Legislature for this new program is there. Release of that money for this program does call for a realignment of priorities and a re-establishment of education goals, however, on the part of the State Office of Public Instruction.

The Center hopes that these recommendations will be considered for what they are meant to be, suggestions for action based on what we have learned from an active year of planning.

TOTAL BUDGET SUMMARY
1971-1973

I.	ENVIRONMENTAL EDUCATION ON THE COMMUNITY LEVEL	$ 155,250
II.	ENVIRONMENTAL EDUCATION ON THE COUNTY LEVEL	22,300
III.	ENVIRONMENTAL EDUCATION ON THE REGIONAL LEVEL	
	A. PROGRAM	1,417,734
	B. CAPITAL	4,080,000*
	TOTAL	$5,675,284

*See Option, pages 87-88, which totals $2,419,000.

VI. SUPPORT LETTERS

October 27, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Sir.

Enclosed is a copy of "A Proposal for the Creation and Implementation of Environmental Education in the Northwest Region of Washington State," intended as a pilot program for developing models within the region that will provide other similar programs in the state of Washington.

As you will note, Mr. Bruno identified the project as the pilot program for the state of Washington. Development to this stage was possible because of legislative action during the last session which delegated to the project $50,000 from Mr. Bruno's emergency fund, which resulted in the plans found in the enclosed document.

Considerable support is developing, as you are aware from letters that have been coming in, which indicates, I am sure, that problems relating to the environment are top priority. It also becomes apparent that we can no longer treat environmental issues in a remedial way but rather must develop a preventive approach, which can be accomplished through education.

This is not a new program. It is a new way of looking at the old program. It is another way of attacking our educational problems. This may be the time for us to redefine what education is all about, clarify our goals, and then draw up a set of educational priorities which should bring about a realignment of educational dollars. I feel this is long overdue.

We hope that you will look at this total program of environmental education from a positive point of view and make funds available to allow this program to become a reality.

Sincerely yours,

WJS 11j
Enc.
cc: Mr. Glen Paschall
Mr. Tom Gardner

William J. Stocklin
Director

APPENDIX TO THE

NORTHWEST ENVIRONMENTAL EDUCATION CENTER

October 23rd
1 9 7 0

Honorable Daniel J. Evans
Governor, State of Washington
O l y m p i a

Dear Governor:

Recently I received a review of the plans and program of the Northwest Environmental Education Center which is operated by Western State College and would like to take this opportunity of expressing my congratulations for what has been accomplished thus far.

I know you share my concerns about the environment and perhaps my questions of the approach (or lack of same) by our educational institutions to this problem. The goals of this Center appear to me to be well conceived, ambitious and imaginative, and I was more than pleased to assist with a request of federal funding from HEW earlier this year. It is to the credit of those who formulated the program that it was selected as one of only two nationally to be awarded such funds this year.

Although we now have an Environmental Quality Education Act, it will be some time before the new budget is presented and we know the extent of any Federal funds that may be available during your next biennium. I know that at least a portion of such funds would be contingent upon state and local matching, therefor I would hope you would give this program every consideration during your final review of the 1971-73 state budget. Rest assured that so long as I have any responsibilities for the funding of these federal programs, especially within the HEW appropriations, I will do all that I can to see that they are adequate.

With kindest regards, I remain

Sincerely,

WARREN G. MAGNUSON, U. S. S.

WGM/wfr

cc: Louis Bruno
Dr. Flora

HENRY M. JACKSON, WASH., CHAIRMAN
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MARK O. HATFIELD, OREG.
TED STEVENS, ALASKA
HENRY BELLMON, OKLA.
JERRY T. VERKLER, STAFF DIRECTOR

United States Senate
COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS
WASHINGTON, D.C. 20510

October 24, 1970

Mr. William J. Stocklin
Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

Thank you for your letter of October 13, 1970, and for the enclosed report on a regional plan for environmental education.

I am pleased to see that your work has been going so well and to know that my office was able to assist you in arranging financing for your project. I am sure you are delighted at the passage of the Environmental Quality Education Act, and wish you success in obtaining further Federal and State help in bringing your plans to fruition.

I appreciate your giving me an opportunity to review your report. I intend to maintain it in the Interior Committee files for future reference pertaining to legislative proposals in the field of environmental education.

With best regards,

Sincerely yours,

Henry M. Jackson
Chairman

HMJ:jkh

D MEEDS
..., WASHINGTON

LEONARD SAARI
...TIVE ASSISTANT

JIM PRICE
...TRICT OFFICE DIRECTOR
ROOM 201
...RAL BUILDING
...TT, WASHINGTON
...PINE 2-3188

Congress of the United States
House of Representatives
Washington, D.C. 20515

COMMITTEE ON EDUCATION AND LABOR
SUBCOMMITTEES:
GENERAL EDUCATION
SELECT EDUCATION
SELECT LABOR

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
SUBCOMMITTEES:
INDIAN AFFAIRS
IRRIGATION AND RECLAMATION
TERRITORIAL AND INSULAR AFFAIRS

October 26, 1970

Mr. Louis Bruno, Superintendent
Department of Public Instruction
State of Washington
Olympia, Washington 98501

Dear Louie:

As you probably heard, the Administration has decided to release the educational appropriations voted by Congress. I think that the oversight hearing my committee held in October 12 may have influenced their decision by focusing attention on the withholding.

Recently I heard from Bill Stocklin at Western who has submitted a regional plan for environmental education. The plan appears very worthy of the state's support. Here at the federal level, Congress has passed the Environmental Education Act. Much will depend, however, on the level of funding requested by the President.

Sincerely yours,

Lloyd Meeds
Member of Congress

LM:mnh

THOMAS M. PELLY
1st District
SEATTLE, WASHINGTON

Suite 2211
Rayburn House Office Bldg.

Congress of the United States
House of Representatives
Washington, D.C. 20515

Committees:
MERCHANT MARINE AND FISHERIES
Subcommittees:
Merchant Marine
Fish and Wildlife
Oceanography
SCIENCE AND ASTRONAUTICS
Subcommittee:
Advanced Research and Technology

District Office:
7004 Federal Office Bldg.
Seattle, Washington 98104

October 26, 1970

Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Dan:

Mr. William J. Stocklin, Director of the Northwest Environmental Education Center at Western Washington State College, has furnished me with a copy of the draft of a plan for environmental education in the Northwest region of the State.

I have read this plan with considerable interest and hope the project will be given high priority for the allocation of necessary funds.

Kind personal regards.

Sincerely,

Thomas M. Pelly
Representative in Congress

Same letter to Messrs Bruno and Howe

cc: Mr. William J. Stocklin

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98105

Department of Psychology

October 27, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans:

I wish to urge the Legislature to totally fund the package of recommendations prepared by the Northwest Environmental Education Center in Bellingham to establish a state-wide program of environmental education. My teaching and consulting as a faculty member of the Department of Psychology at the University of Washington is in the area of community action. Both at the college and high school level, it is appalling how little thought is being given those critical elements in the curriculum upon which man's survival depends. Efforts in 1969-70 at UW to establish an interdepartmental program in ecology were unsuccessful and it is truly agonizing to see such attempts at innovation fail while time is running out.

As an educator in our state and a consultant with the Seattle Public Schools concerned with improving our nation's environmental education through whatever means possible, I feel that the regional plan prepared by William Stocklin and his associates represents the finest sort of research and projection for undertaking a project of this magnitude. It will truly serve as a model for other states and regions.

Sincerely,

Patricia W. Lunneborg, Ph.D.
Lecturer

PWL:cdc

HUXLEY COLLEGE OF ENVIRONMENTAL STUDIES

October 26, 1970

Mr. Louis Bruno
State Superintendent of Public
Instruction
Old Capitol Building
Olympia, Washington 98501

Dear Superintendent Bruno:

During the past year I have been pleased with the emphasis your office has placed on environmental education. The Northwest Environmental Education Center with your direction has been instrumental in making many citizens of the State of Washington aware of the necessity for environmental education programs.

The recent proposal sent to your office by NWEEC for the creation and implementation of environmental education should have a real impact on solving many of our critical problems. I compliment you on including this in your budget and wish you every success in developing this project.

Sincerely,

Gene W. Miller
Dean

GWM:jb

bcc: W. J. Stocklin

Weyerhaeuser Company

Cosmopolis, Washington 98537

October 20, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans:

One of the most provocative papers on environment and the general subject of ecology was written recently by retired Rear Admiral Rickover and published in American Forests. The Admiral urges the nation to reorder its educational priorities and concepts to the end that our children get exposed to ecology in the first grade so that it's as common, usable, and constructive to them as the traditional three "R's". This desirable goal, of course, cannot be accomplished until teachers have the capability and motivation to move in that direction.

I have completed a review of a proposal for the creation and implementation of environmental education in the northwest region of Washington State by William J. Stocklin, Director of the Northwest Environmental Education Center, which in my opinion will go a long way in meeting the urgent demands now facing our turbulent society for new directions in environmental education. I join many others in urging your support of this program. The forest products industry of the state, through the good efforts of the Washington Forest Protection Association, has made financial contributions to the Northwest Environmental Education Center because we see it as a worthy and necessary effort. We have a lot of confidence in Mr. Stocklin.

By copies of this letter to Mr. Louis Bruno, State Superintendent of Public Instruction, and to Mr. Walter Howe, Director, Office of Program Planning & Fiscal Management, I am indicating to these gentlemen our support of this project.

Thank you for your consideration.

Sincerely yours,

WEYERHAEUSER COMPANY

Vincent W. Bousquet
Timberlands Manager
Southern Washington

VWB:db

cc: Mr. Charles W. Bingham
Weyerhaeuser Company
Tacoma, Washington 98401

Mr. George W. Hess
Weyerhaeuser Company
Tacoma, Washington 98401

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Mr. Louis Bruno
State Superintendent of Public Instruction
Old Capitol Building
Olympia, Washington 98501

Mr. Walter Howe, Director
Office of Program Planning & Fiscal Management
Insurance Building, Room 100
Olympia, Washington 98501

MAIN 3-1200

PUGET SOUND GOVERNMENTAL CONFERENCE
FERRY TERMINAL BUILDING, PIER 52 SEATTLE, WASHINGTON 98104

October 30, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans:

The Puget Sound Governmental Conference staff strongly urges your support of the Environmental Education Program submitted by Mr. William J. Stocklin.

In December 1969, the Environmental Policy Advisory Committee of the Conference reviewed the proposed program and gave it their full support. Although the Committee was not able to review the new program in time for Legislative consideration. I'm confident that they will endorse it. Both the Human Resources and Environmental Planning Division of the Conference staff have reviewed the proposal and fully support it. The need for a program as proposed is even more clearly indicated now than when it was first submitted. I am attaching a copy of our earlier letter for reference.

I hope you will do all you can to achieve the favorable consideration of Mr. Stocklin's proposal.

Very truly yours,

Robert R. McAbee, AIP
Executive Director

RRM:JRC:isp
Enclosure

cc: Mr. William J. Stocklin

President's Office

ASSOCIATED STUDENTS
WESTERN WASHINGTON STATE COLLEGE

VIKING UNION

BELLINGHAM, WASH. 98225
TELEPHONE (206) 734-5840

October 16, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans,

I am writing on behalf of the Northwest Environmental Education Center located at Western Washington State College. It is my belief that N.W.E.E.C. is essential for the future of mankind. N.W.E.E.C. offers a vital new concept in teaching our children to cope with their environment more effectively. It would be a great loss if such a project was to be ignored by the state. Having been associated with N.W.E.E.C. for almost a year I have come to appreciate what it is doing. I have also come to sense the crucialness of funding the Center to obtain needed resources. If N.W.E.E.C. is to operate effectively in the future it will need the funds it has requested in the proposal What's It All About? Survival Through Education. I cannot overemphasize my concern for the Center's existence. If the state of Washington is sincerely interested in educating its children so that they will lead a better life then I can see no way the state can overlook the Northwest Environmental Education Center.

Sincerely yours,

[illegible]
Co-ordinator, Student
Environmental Action
Center, N.W.E.E.C.

planned parenthood center of seattle

202 16TH AVENUE SOUTH • SEATTLE, WASHINGTON 98144 • (206) EA 9-3623

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•

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EXECUTIVE DIRECTOR

RUTH KRAUSS, M.D.
MEDICAL DIRECTOR

October 16, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans,

For the past decade I have been keenly interested and involved in attempts to improve public information about population and environmental issues. I was therefore very impressed by Mr. Louis Bruno's successful effort to fund a special planning project for environmental education.

I have just been privileged to see A Proposal For The Creation And Implementation Of Environmental Education In The Northwest Region of Washington State, a thoughtful, comprehensive, innovative and exciting proposal submitted by Mr. William J. Stocklin, Director of Environmental Education Centers Project. I hope it can receive a high priority in funding.

Sincerely yours,

(Mrs.) Lee Minto
Executive Director

LM:e
cc: Mr. Louis Bruno
State Superintendent of Public Instruction
Olympia, Washington

Mr. Walter Howe, Director
Office of Program Planning & Fiscal Mgmt.
Insurance Building, Room 100
Olympia, Washington

bcc: Mr. William J. Stocklin

AFFILIATED WITH PLANNED PARENTHOOD-WORLD POPULATION
A UNITED GOOD NEIGHBOR AGENCY
MEMBER, SEX EDUCATION ASSOCIATION OF KING COUNTY

SIMPSON TIMBER COMPANY

2000 WASHINGTON BUILDING • SEATTLE, WASHINGTON 98101

October 20, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor:

One cannot be unaware of the enormous financial problems coming before the next legislature.

Priorities will, nevertheless, be assigned to State programs. I believe the understanding of environmental issues by our school children must come within these priorities.

Your support of funds for the programs outlined by the Environmental Education Centers Project will be most helpful in getting this vital subject into our public schools.

Sincerely,

Dave James
Vice President-Public Affairs

DJ:pm

bcc: Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Wash. 98225

WASHINGTON SECTION

ASSOCIATION FOR OUTDOOR EDUCATION

FOUNDED 1954

An Organization dedicated to the advancement of general education through outdoor education.

October 30, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington 98501

Dear Governor Evans:

The position of the Association For Outdoor Education has not changed concerning the support of the Northwest Environmental Education Center project. It is now time to support the implementation of the model plan with adequate financing.

There is nothing more urgent at this time than to make children aware of their environment. The only way to accomplish this multitudinous program is to involve colleges in training teachers that are prepared to use the environment as a teaching tool.

Children must be aware of the environment in which they live. They must be able to make decisions concerning the management of the environment. If we do not allow them this type of learning, all else will fail. We will fail if we do not provide teacher training with environmental emphasis such as the N.E.E.C. project offers. Teaching where it is most appropriate is the key, whether inside the classroom or outdoors in the natural and man-made environments, polluted or well managed.

The Association For Outdoor Education urges your support in this urgent matter.

Thank you for your consideration.

Sincerely,

Larry Squire

Larry Squire
Past Chairman, Washington Section, A.O.E.

LS:fr

131

Dear Bill, hopefully your names have gone to both Evans + McHowe.

Rupert

October 21, 1970

Mr. Louis Bruno
State Superintendent of Public Instruction
Old Capitol Building
Olympia, WA 98501

Dear Mr. Bruno

I have given some preliminary study to Survival Through Education, A Proposal for the Creation and Implementation of Environmental Education in the Northwest Region of Washington State. It looks like an excellent proposal for a way in which Washington can be a leader in the United States in the development of environmental education programs.

There are several unique aspects to this program:

1. Many previous programs have emphasized the use of pre-existing materials, such as books, learning packages or laboratories set up for other purposes. It is a good idea to adapt to the equipment and techniques already in use, if they will do the job.

   The entire area of environmental studies is however, in many ways, new. It involves new concepts, tools, and new ways to learn things considered often in the past as too difficult or too boring. It incorporates whole new areas into the program, such as city planning, energy conservation from cars and homes in a small city or a nation to the development of ways to understand the energy needs of a small home or a nation. Environmental studies in addition are not a mere bauble to be added to the curriculum. They are needed perhaps for the very survival of man or at least for the survival of man in a quality environment.

   This NEEC program emphasizes the development and utilization of these new techniques our civilization requires for the teaching of environmental education.

2. By its existence in a rural setting, and serving as the focus of the environmental programs of an entire region NEEC will be in position to utilize the abilities of the local teachers and others with expertize in environmental education. It can draw on their knowledge and enthusiasm.

3. By being a center under the direction of the State Department of Education, and yet also including the other educational institutions involved with environmental education, NEEC can make all of the elements of environmental education come together. It will help to take the professors out of their ivory towers, it will bring in the community colleges, it will bring in the student teacher, it will bring in the classroom teachers, it will include students, it will bring in the administrators of environmental education. It will bring them all together. And it will help to make practical what has often been impractical in the past. As the younger generation would say, "It will put it all together."

If this program is carried out, I think it will be the most exciting, and innovative program in environmental education in the United States. In addition, much federal matching money would be available for this program through the Environmental Quality Education Act-H.R. 18260. Once underway, this program will be a model for others to follow. This is a glorious opportunity for the State of Washington to lead the way.

Sincerely yours

Rupert Schmitt
Teacher of Environmental Studies
President, Skagit Environmental Council
Board Member Washington Environmental Council

RS/cb

cc: Mr. Walter Howe
Honorable Daniel J. Evans
Mr. William J. Stocklin

Letter also sent to:

Mr. Walter Howe
Mr. Louis Bruno

October 21, 1970

The Honorable Daniel J. Evans
Governor of Washington
State House
Olympia, Washington

Dear Governor Evans

We strongly support the regional (5-county) plan for environmental education as proposed by the Director of the Northwest Environmental Education Center. This project is urgently needed for the development of good environmental attitudes in today's youth. Outdoor laboratories and experiments under actual environmental conditions are necessary for a genuine appreciation of a health environment.

It is commendable that this project covers a wide and diverse geographical area. We sincerely hope that this project will continue to progress, be funded, and become a reality.

Sincerely

James M. Ford
Dean of Instruction

Norwood M. Cole
President

ja

The Izaak Walton League of America

INCORPORATED

BUILDING A BETTER OUTDOOR AMERICA

Nov. 9, 1970

William J. Stocklin, Director,
Environmental Education Centers Project,
Northwest Environmental Education Center
Western Washington State College,
Bellingham, Wash., 98225

Dear Mr. Stocklin:

Your sending us a copy of the first draft of your very complete regional (5-county) plan for environmental education is very much appreciated.

Unfortunately, our Chapter has been unable to meet the November first deadline, which had been imposed upon you. Our Chapter is simply not equipped to act that quickly, and we are turning the proposal over to one of our Committees (whose Chairman is strongly conservation-minded) for its study and recommendations, which we will forward to you as soon as possible.

Sincerely yours,

Edward B. Dunn

Edward B. Dunn, v-Pres.,
Greater Seattle Chapter

Pier 70,
Seattle, Wash., 9812[illegible]

EBD/vvt

WM. CASTLES, *Clerk*
Deming, Washington

WM. CASTLES
SUPERINTENDENT

Mount Baker Schools

DISTRICT NO. 507
DEMING, WASHINGTON 98244

Nov. 11, 1970

MOUNT BAKER JUNIOR-SENIOR
HIGH SCHOOL

ELEMENTARY SCHOOLS
ACME—
DEMING—
HARMONY—
MAPLE FALLS—

Mr. Louis Bruno
State Superintendent of Public Instruction
Old Capitol Building
Olympia, Washington

Dear Louie:

This letter is intended to advise you of my whole hearted support of the development plan, proposed by Mr. William J. Stockli, Director for the Northwest Environmental Education Center on Whidbey Island.

As a member of the committee which first met with Mr. Burt Cole of the State Department of Natural Resources seeking a long term lease of the Whidbey Island site and also as a member of the first committee which met with Dr. W. W. Haggard, president of that time of Western Washington State College, to interest him in encouraging WWSC to take an active role in the use of this site for teacher training, I have long had a strong interest in the Whidbey Island facility.

While our school district already owns an 80 acre forest for our Conservation Education class and a 40 acre forest for our Vocational Agriculture department, plus our own fish hatchery, game management area and [illegible] I feel that our teachers cannot well enough prepared to [illegible] facilities. The use of the Whidbey Island site, as proposed by Mr. Stockli in his PROPOSAL FOR THE CREATION AND IMPLEMENTATION OF AN ENVIRONMENTAL EDUCATION IN THE NORTHWEST REGION OF WASHINGTON STATE would provide facilities and means for staff improvement and development through in-service training of our staff and also for the preparation of beginning teachers. Until we are able to employ better prepared teachers in this area or provide meaningful in-service training for our present teachers, I feel that we will make little progress in the development of a good program in environmental and outdoor education.

I will be happy to assist with any presentation that may be made to the legislature to secure funds for the development and operation of the Whidbey Island site.

Sincerely yours,

Wm. Castles
Superintendent

cc: William Stockli

EVERETT COMMUNITY COLLEGE

801 WETMORE AVENUE • EVERETT, WASHINGTON 98201 • ALPINE 9-7151 AREA 206

June 2, 1970

Dr. William J. Stocklin, Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Dear Dr. Stocklin:

Thank you for your letter concerning the participation of Everett Community College in some meaningful financial way with the Northwest Environmental Education Center. In view of our present budgetary constraints I cannot make firm commitments but it appears to me at this time that we can provide the 15¢ per student mentioned. I do not know if you meant full time students head count or just exactly what basis would be used for the determination of our contribution.

You are to be commended for the fine work you are doing in environmental education and I am pleased our college is a part of the program. As soon as we have a firm commitment we shall be in contact with you.

Sincerely

Jeanette Poore
President

JP/mh

Superintendent of Public Instruction
STATE OF WASHINGTON
Olympia

Louis Bruno
STATE SUPERINTENDENT

November 10, 1969

The Honorable Daniel J. Evans
Governor, State of Washington
Executive Offices
Olympia, Washington

Dear Governor Evans:

One of the finest programs with the greatest potential that exists in our State is the Northwest Outdoor Educational Laboratory located on Whidby Island. Thousands of school children have had the opportunity to participate in this partially developed area and have benefitted immeasureably.

School systems in the Northwest part of our State and I must include King County in this area as well, feel the real need to bring to all boys and girls the opportunity to savor and participate in our great outdoor environment and programs possible in this situation.

We understand fully your leadership concerns in reference to the necessity of tight budgetary considerations. However, this program is of such great potential value I respectfully urge you to consider the request for planning money in a favorable light. Western Washington State College is requesting the sum of $50,000 to be placed in its budget for planning purposes in the proper and adequate development of the 600 acres on Whidby Island as an Outdoor Educational Environment Center. My Office has worked closely with Western Washington State College, with the Department of Natural Resources and with the many school districts involved and I am convinced that we have a program which pays tribute to your deep concerns for our environment in the State of Washington.

Please be assured that what resources we possess in the way of personnel will be made available for the full and adequate development of this splendid project. This is a pilot project and it will provide the opportunity for the careful development of the full program. It is a wise step in planning and programing, and I heartily endorse it for your consideration as a possible Executive Request.

Cordially yours,

Louis Bruno

Louis Bruno
State Superintendent
of Public Instruction

LB:lk

WESTERN WASHINGTON STATE COLLEGE

Office of the President

November 10, 1969

The Honorable Daniel J. Evans
Governor
State of Washington

Dear Governor Evans:

Since 1958, Western Washington State College has held the lease for nearly 600 acres on Whidbey Island from the Department of Natural Resources for the convenience of school districts in the northwestern part of the State interested in developing an environmental education program. Since 1963, participating school districts have contributed a headtax for support and development of the program. Last year, Western Washington State College, still acting on behalf of the common schools in the counties of Skagit, Snohomish, Whatcom and San Juan, renewed the ten-year lease with the Department of Natural Resources.

The Materials en route to you spell out in some detail the rationale for a budget request during the upcoming special session of the Legislature. These monies would be used to develop curricular materials, and schematics for a proposed capital construction program which would be sought during the Regular Session of the 1971 Washington State Legislature.

Administration of the program would continue to rest with an Advisory Board composed of one representative from each of the five participating counties, Shoreline School District, WWSC, and the Department of Natural Resources. For the sake of administative convenience and budgetary accounting, Western could handle these funds on behalf of the sponsoring agencies. This arrangement was arrived at after discussion and correspondence among the OPP and FM, Office of Public Instruction, and the participating agencies. All parties agree that this request is not part of Western's capital improvement program.

I am sure you will agree that an education program geared to an understanding of environmental causes and effects will complement our efforts in achieving and assuring environmental quality and will educate our young

BELLINGHAM, WASHINGTON 98225 • AREA CODE 206 734-8800

people to man's relationship with his environment. Presently, 20 school districts are participating in this endeavor, which could become a model program for the State.

Western Washington State College has an abiding interest in the development of environmental education programs. I wish personally to heartily endorse this special request for planning money and urge you to submit it as Executive Request legislation to the 1970 Special Session.

Sincerely,

Charles J. Flora
President

CJF:dr

cc: Mr. Louis Bruno
Mr. Bert Cole
Mr. William Stocklin

Natural Resources

DON LEE FRASER
SUPERVISOR

BOX 168
OLYMPIA, WASHINGTON
98501

November 10, 1969

Honorable Daniel J. Evans
Governor of the State of Washington
Legislative Building
Olympia, Washington

Dear Governor Evans:

As Commissioner of Public Lands, Department of Natural Resources, I have been in a position to observe the development of what we now refer to as the Northwest Outdoor Education Laboratory. In 1958 I signed an order which granted Western Washington State College and the public schools of Snohomish, Skagit, Whatcom, Island, and San Juan counties the use of 586.5 acres of state land on Whidbey Island for "outdoor research, education and demonstration purposes".

On January 7, 1968, I signed a lease for the state that permits Western Washington State College and the public schools from the above mentioned counties and from North King County, use of these lands for a conservation education center for a period of twenty years. That lease directed the Lessees to submit to the state within one year a general plan for the development of the leased premises. Limited funds have prevented the lessees from fully complying with this request. The scope of the proposal that the four sponsoring agencies are making to the state legislature in January 1970, is necessarily limited to that necessary to develop a workable overall development plan. I am very pleased, however, at the progress that has been made by the Northwest Outdoor Education Laboratory in doing what it can to promote and implement an environmental program with no budget to speak of.

Two approaches are open to us in dealing with environmental problems. We can approach them from a remedial point of view after a situation, such as water pollution, has become critical; or, we can approach them from a preventive point of view which looks to the long range affects of any proposed action.

In view of our present environmental problems in the Pacific Northwest, the remedial measures to be considered by the legislature in January are critical in reversing the pollution to our water and air, and the misuse of certain land areas.

At the same time remedial legislation is being considered, however, it would be prudent to begin to exploring other practical ways of approaching environmental problems preventatively, namely, through education. A public sensitive to man's relationship and responsibility to his environment anticipates the long range needs of people and plans, through the support of legislation, to guarantee that these plans are met. Only through environmental education can we possibly reach a level of sophistication required to deal with complicated problems of our state's environment.

I believe that a public educational program is necessary to the success of a long range, comprehensive, statewide environmental program. This bill would initiate detailed plans for such an approach.

Sincerely,

BERT L. COLE
Commissioner of Public Lands

BLC:fw

Skagit Valley College
A Community College
2405 College Way
Mount Vernon, Washington 98273

Office of the President

BOARD OF TRUSTEES:
Dr. R. M. Hoag, Chairman
Mr. H. P. Creel
M. Norman Dahlstedt
Dr. J. W. McCann
Mr. N. P. Oldenburg

September 15, 1969

Mr. William J. Stocklin, Director
Northwest Outdoor Education Laboratory
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin

Your letter of July 28 came during a period when most of our people were on vacation. Thus, I was not able to discuss the matter with them until recently. This accounts for the delay in answering your letter.

SVC is interested in cooperating with you in developing the project and will endorse and support the proposal in the 1970 Special Session of the Legislature. Dr. James Ford, Dean of Instruction, will be your contact in regards to SVC's participation in the project.

Thank you very much for allowing us to participate in this very worthwhile project.

Sincerely yours

Norwood M. Cole

Norwood M. Cole
President

NMC/mt

Skagit Valley College
A Community College
2405 College Way
Mount Vernon, Washington 98273

BOARD OF TRUSTEES
Dr. R. M. Hoag, Chairman
Mr. H. P. Creel
Mr. Norman Dahlstedt
Dr. J. V. McCann
Mr. N. P. Oldenburg

November 12, 1968

The Honorable Daniel J. Evans
Governor
State of Washington
Olympia, Washington 98501

Dear Governor Evans

We strongly support the concept and the developmental plan for the Northwest Outdoor Education Laboratory. In fact such a facility is urgently needed to assist in the inculcation of health environmental attitudes in our children of today if our planet is to remain as a liveable and pleasant place for our children of tomorrow. We have not succeeded in the development of such attitudes by merely discussing conservation, etc. in our traditional classrooms. Outdoor laboratories and experiments under actual environmental conditions are proof to our questioning youth of today.

It is commendable that many institutions will cooperate in such a project as this because this provides for transitions from one level to another. It also means that more minds, more resources, and more time can be applied to the pressing environmental problems with which we are faced.

Skagit Valley College feels fortunate to be a participant in such an innovative venture. We are pleased that our faculty and students can be exposed to, can be a part of, and can utilize such a facility which has as its ultimate goal the benefit of all mankind. We sincerely hope that this project will continue to progress and become more of a reality to the end to which it is needed.

Sincerely

James M. Ford
Dean of Instruction

JMF/ja

COURT HOUSE
311 GRAND AVE
BELLINGHAM WASH
98225
PHONE 734-3940 3180

November 7, 1969

The Honorable Daniel Evans
Governor of Washington
Olympia

Dear Governor Evans:

The minutes of the September 17 meeting of the Northwest Superintendents shows a resolution moved by William Castles of Mt. Baker School District and seconded by Milton Snyder of Marysville School District that the association support the Northwest Outdoor Education Laboratory funding during the special session. The motion carried.

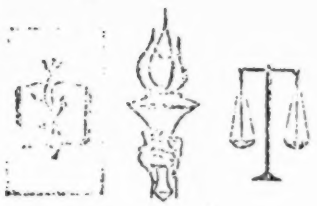
The superintendents feel that this type of education is very significiant to the academic program of today in that it does much to strengthen the children's understanding of their environment. This type of laboratory arrangement is conducive to the teaching of the youth of today.

Sincerely yours,

Frederick D. Chesterley

Frederick D. Chesterley
Chairman
Intermediate School District #108

FDC/eh



SHORELINE PUBLIC SCHOOLS

November 10, 1969

Dear Governor Evans:

As interested and involved members of the Northwest Outdoor Education Laboratory, we strongly urge you to present an executive request bill for a $50,000 Planning Program at the forthcoming special session of the legislature.

Environmental education is high on our priority list as an appropriate setting for educating our boys and girls. Our past experiences under a Title III Program and as a school district evidences our need to use nature's setting for an interdisciplinary approach to learning. Interestingly enough, Governor Evans, the classic division of students as "robins, bluebirds and buzzards" disappears when our students engage in the activities of the outdoor laboratory.

The $50,000 for planning a curriculum, inservice, and schematic use of the land would be an important and major step in making education relevant to boys and girls.

Sincerely,

William G. Stevenson

William G. Stevenson
Superintendent

bcd

The Honorable Daniel J. Evans
Governor of Washington
Olympia, Washington 98501

Educational Service Center
NE 158th and 20th NE
Seattle, Washington 98155

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98105

College of Architecture and Urban Planning
Office of the Dean

March 28, 1969

William J. Stocklin
Director
Northwest Outdoor Education Laboratory
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

I am particularly pleased to get the packet of material of March 25, 1969 with regard to the Whidbey Island Outdoor Education Laboratory effort.

It is particularly gratifying to know that some work is taking place with regard to the education of our children toward understanding of our environment as it relates to man's activities. It is unfortunate that we have gone this long without taking more particular cognizance of what has developed. It is always of interest to me that we are inclined to let conditions deteriorate to such a sad state before we are inclined to take action, and it is for this reason that your efforts are so timely and so much in need.

I had been aware of your efforts, although not closely related to them. I was first introduced to this movement through the Edmonds School District some five or six years ago, and was aware of the activites on Whidbey Island. There is very little I can do at this time except congratulate you and your many friends on this noble endeavor. We have been looking at this problem for many years at the University and find that it is virtually impossible to generate any action because of lack of funds, which in turn relates to lack of manpower and talent, however, we hope that we will be able to fund some form of environmental institute with private monies and in turn relate to the internal and external problem of information and education.

I plan to circulate your letter and the material to a number of the faculty within the College and get their reaction. As soon as I have some response, I will be in touch with you. In the meantime, I admire what you are attempting, and obviously getting under way, and I am sure that in the years to come, although you will not be fully appreciated, the effort will be worthwhile.

Kindest regards,

Robert H. Dietz
Dean

RHD:fjs

Weyerhaeuser Company

Forestry Research Center
505 North Pearl Street
Centralia, Washington 98531
A/C 206 • PE 6-7678

April 4, 1969

Mr. William J. Stocklin, Director
NORTHWEST OUTDOOR EDUCATION LABORATORY
Western Washington State College
Armadillo House
Bellingham, Washington 98225

Dear Mr. Stocklin:

Your letter of March 24, 1969 was received and read with sympathetic interest. You have discussed a subject which has always been of great concern to me, teaching young people about and making them aware of the environment in which they live.

Being a school director in the Centralia district and having been associated with, in a supporting role, an annual 6th grade conservation week for the last 4 or 5 years, I am very sensitive to the need for a nature or environmental awareness program in our public schools.

In our own small way we have been trying to accomplish some of the objectives you have outlined so well. Our 6th grade students live for a week each May at Mayfield Youth Camp in Lewis County, with the time devoted to nature instruction. It has been a successful program.

But the key to this program is training teachers that have a background and a sensitive awareness of nature and the problems associated with man fitting into his environment. Your laboratory and the educational program associated with it are tremendous steps in this direction.

Weyerhaeuser Company, as you may visualize, has a substantial interest in programs of this type. Many personnel have contributed much time and effort in support of this interest.

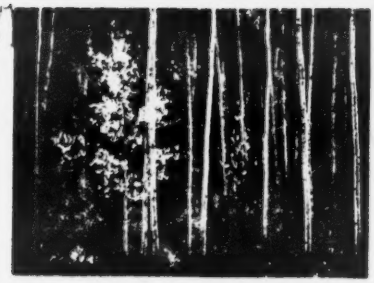
I think your ideas and approach are excellent. I would be happy to support them in any way I might be able. I wish you success in your endeavors.

Sincerely,

J. H. Rediske

J. H. Rediske, Ph.D.
Group Leader
Forest Tree Sciences

JHR/pf



by Ansel Adams in *This Is the American Earth*

BROCK EVANS
Northwest Conservation Representative
4534½ University Way N. E.
SEATTLE, WASHINGTON 98105

SIERRA CLUB Mills Tower, San Francisco 94104

April 7, 1969

Mr. William J. Stocklin, Director
Northwest Outdoor Education Laboratory
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin;

Thank you very much for sending me the very interesting packet of materials concerning the proposed environmental education program. I have read through much of the material, and want to commend you for the fine work that you have done so far.

I don't think that I need to tell you that our organization feels that this has been a grossly neglected field in the past, and we would like to do anything in our power to encourage the efforts of persons such as yourself to get involved in this critically important field. We believe that for too long, what teaching we have had in the area of conservation has been mostly what I would call "wise use" conservation, or how to extract resources from the land without damaging the basic resource. This is of course a concept which we favor, but it is not the only concern. There are other things too, such as the value of natural environments, untouched by man, the value of clean air and water, and the value of having places to look at.

The material you furnished me contained some of the most sophisticated and perceptive analysis of this situation that I have ever seen. I can only encourage you to go ahead with this, and offer you whatever support both the Sierra Club and the Federation of Western Outdoor Clubs can offer. Please let me know how we may be of assistance in the future.

I thought that you might be interested to receive a copy of a speech which I delivered on this subject in Idaho recently. As you can see, we place great importance on the land ethic, and it seems that your groups are aware of this also. We will support any progaam which truly teaches all aspects of the total environment, and has teaching materials and field trips accordingly. We feel that in the past, as I said, the outdoor education our children have been receiving is mostly extractive resource education, as opposed to the total environment.

Please continue with your effort.

Very truly yours,

151 Brock Evans

Brock Evans

Southwest Florida Water Management District

P. O. BOX 457 BROOKSVILLE, FLORIDA 33512

DERRILL McATEER, Chairman, Brooksville
EDWARD MEDARD, Secretary, Tampa
A. M. PICKARD, Treasurer, Lakeland

JOHN A. ANDERSON, St. Petersburg
HERMAN BEVILLE, Bushnell
S. C. BEXLEY, JR., Land O'Lakes

DAVID HIPP, Williston
PAUL F. HUBBARD, Oklawaha
BOYCE A. WILLIAMS, Leesburg

Dale Twachtmann, Executive Director

September 3, 1969

Mr. William J. Stocklin, Director
Northwest Outdoor Education Laboratory
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

Thank you for your letter of July 29, 1969 regarding the Northwest Outdoor Education Laboratory, Whidbey Island Model Site. The brochure that accompanied your letter is excellent in concept and in content -- it gets the message across clearly.

You are proposing an attack on one of the most difficult and frightening problems facing mankind -- how to live in harmony with his environment; how to use the natural resources without wasting or despoiling them; how to enjoy nature without ruining it; how to maintain beauty where it is not yet destroyed, and how to recreate or restore the balance of nature where it has all but perished.

Your proposed approach has my full concurrence and best wishes for its success. Where better to start than with our teachers and children? And how better to teach geology, biology, zoology, hydrology and that branch of science that relates and integrates them all -- ecology -- than in the forests and fields and along the streams, beside the shores of seas and lakes and in the bogs, marshes and meadows?

It may take more than one generation for this approach to become widely effective. However, a citizenry that understands how nature works is a citizenry that will police its own actions in the ways best calculated to maintain a wholesome and satisfying environment. It is lamentable that this move has taken so long to get started. In some areas we may be, probably are, already ten to twenty years too late. But there are still many areas where we can save the land, the vegetation, the creatures of nature, the pure water and the clear skies for all to enjoy, and the Pacific Northwest is certainly one of these. I hope that the legislature, the school system of the State, industry and commerce, and the citizenry generally get wholeheartedly behind your excellent plan. The idea of dispersing centers of ecologic education at each of the institutes of teacher training is basic to

the success of the idea. Each institution has something special and unique to offer its students from the beautiful seashores and dense temperate rain-forests of western Washington to the high, semi-arid deserts and rolling grasslands of eastern Washington, from the glaciated peaks of the Cascade Mountains to the channeled scablands of the Columbia Plateau. What wonderful opportunities the teachers would have, once imbued with the teachings and training given in centers such as Northwest Outdoor Education Laboratory, to establish smaller replicas in most school districts throughout the State!

Not every state in the union is so amply endowed with environmental beauty as Washington, but every state has its own individual charm and unique natural appeal. I would hope that your idea would become so successful that all the other states would emulate it and that soon the outdoors teaching of ecology would spread across the land. Then this nation could have the kind of "grass-roots" support that would make of this land a proud heritage to pass on to our children and our children's children.

With all best wishes for every success, I am

Very sincerely yours,

Garald G. Parker
Chief Hydrologist, and
Immediate Past President
American Water Resources Association

GGP:ce

P.S.: If anything that I have said in this letter would be useful to you in an endorsement of your plans, please feel free to use it as you see fit.

COURT HOUSE
311 GRAND AVE
BELLINGHAM WASH
98225
PHONE 734-6[illegible] 3180

September 26, 1969

Dr. Louis Bruno, Superintendent
State Department of Public Instruction
Old Capitol Building
Olympia, Washington

Dear Dr. Bruno:

The minutes of the September 17 meeting of the Northwest Superintendents' Association shows a resolution moved by William Castles of Mt. Baker School District and seconded by Milton Spencer of Marysville that the Association support the Northwest Regional Education Laboratory funding during the special session. The motion carried.

The superintendents feel that this type of education is very significant to the [illegible] program in that it allows integration the child's understanding of his environment. This type of laboratory arrangement is conducive to the teaching of the youth of today.

Sincerely yours,

Frederick D. Chesterley
Chairman
Intermediate School District #108

FDC/ah

April 11, 1969
P. O. Box 531
Wilkinson, Washington 98225

Mr. Willis J. Stoeckle, Director
Western Washington State College

Dear Mr. Stoeckle,

This is to express my appreciation for an extraordinarily fine presentation of the case for environmental education centers, particularly a beginning development and full use of the Whidbey Island site. [illegible], I should think material sufficiently broad in scope to [illegible] need for the more study in the biological sciences in public schools. I had it [illegible] couldn't have had a more effective [illegible] need for environmental awareness [illegible] schools - in [illegible].

[illegible] breakdown of the [illegible] elimate of both [illegible], particularly to [illegible] exploitation and depletion of resources. [illegible] thoughtless profligacy with natural assets, [illegible] believe that our fate is irreversible, that we have cut [illegible] of emphysema and set the wheels of nuclear explosion. [illegible] I do know: change in our heedless, bulldozer impact upon the environment will not come from a generation whose entire thrust has been the quest for wealth, power [illegible] national scale. [illegible] will come from another generation, [illegible] not yet infected [illegible] sensitivities will [illegible] terms.

[illegible] alive - this has given [illegible] - [illegible] hope. It isn't a [illegible] spread over a decade [illegible]. Recent [illegible] ation [illegible] life [illegible] has consumed most of deterioration [illegible].

They don't [illegible] about it, [illegible] tion to start a reversal in personal terms. [illegible] on to pick up [illegible] litter. But [illegible], and I think it must [illegible] of teaching [illegible] than the young. Hopefully, a new generation will [illegible] the consequences of [illegible] environmental [illegible] try after cities have [illegible] and polluted, [illegible] soil, whole species [illegible], American soil buried [illegible].

[illegible] action now, while [illegible].

Sincerely,

Edward Kendall

WASHINGTON SECTION

ASSOCIATION FOR OUTDOOR EDUCATION

FOUNDED 1954

An Organization dedicated to the advancement of general education through outdoor education.

November 12, 1969

The Honorable
Governor Evans
State Capitol
Olympia, Washington

Dear Governor Evans:

One of the keys to provide a quality environment for the children of Washington is to get them involved in the outdoors. Children must learn about the world in which they live in nature and must also be ready to make some intelligent decisions as to how they will best use the environment in their generation. They must be able to make logical decisions about their total environment, concerning its wise use. We have not been doing this kind of learning within the four walls of the classroom.

It is essential that teachers be trained to use the outdoors as a classroom. It is essential that every youngster in the state have many outdoor experiences. It is essential that we provide wide curriculum in environmental education. It is essential that we have at least one of the certified outdoor education laboratory which will initiate some of these necessities of our times.

The Washington Section of the Association for Outdoor Education firmly endorses the proposal of the Environmental Education Centers Project — concerning the Northwest Outdoor Education Laboratory on Whidbey Island.

Sincerely,

Larry A. Madsen
Chairman, Washington Section
Association for Outdoor Education

LAM:r
cc: Louis Bruno
Bill Stocklin
Bill Hunter

FOR INFORMATION: A.O.E., 731 SOUTH HOPE STREET, LOS ANGELES, CALIFORNIA, 90017

SNOHOMISH COUNTY ENVIRONMENTAL EDUCATION COUNCIL
Snohomish County Courthouse
Everett, Washington 98201
November 18, 1969

The Honorable Daniel J. Evans
Governor, State of Washington
Executive Offices
Olympia, Washington

Dear Governor Evans:

At our fall meeting the Council discussed at length the Environmental Education Center's project and the Northwest Outdoor Education Laboratory on Whidby Island.

Our Council is dedicated to the task of providing meaningful experiences for the youth of our community so that they might better understand their position in life and their relationship to their environment. We strongly urge your support of this most meaningful project.

Cordially yours,

Gene Hayfield, Chairman

cc: Louie Bruno
Bill Stocklin

JMc:jm

13

NATURAL RESOURCES FORUM OF WASHINGTON

P. O. BOX 423

OLYMPIA, WASHINGTON 98501

November 20, 1969

Honorable Daniel J. Evans
Capitol Building
Olympia, Washington 98501

Dear Governor Evans:

At the November 15 meeting of the Natural Resources Forum of Washington, it was resolved to support the proposal submitted to you by Western Washington State College, Skagit Valley Community College, the Department of Natural Resources and the State Office of Public Instruction for $50,000 to plan an environmental education curriculum and to prepare the pre-planning documents necessary for the early development of the Northwest Outdoor Education Laboratory on Whidbey Island.

The Natural Resources Forum has been most recently concerned with the financing of workshop scholarships for teachers with a keen interest in the study of environmental problems. The immediate and projected plans of the Northwest Outdoor Education Laboratory to develop an environmental education curriculum and to find ways and means of training teachers in environmental education are commendable and visionary. We agree with the Laboratory's philosophy that only through a change in attitude, and hence in behavior, can the quality of our environment be maintained.

We hope that you will include this proposal for planning money to develop an environmental education curriculum as part of your Executive Request.

Sincerely,

GERRY W. KELLY
President

Business Session

December 2, 1969

WASHINGTON STATE SCHOOL DIRECTORS' ASSOCIATION

New Business

16 a)

WHEREAS the value of a school director to his district is related to his familiarity with school district problems and procedures, and

WHEREAS rapid turn-over in a school board is not conducive to policy continuity, and

WHEREAS the present system of election for four years of three and two members invites excessive change and loss of experience in school director membership, now therefore

BE IT RESOLVED that the Washington State School Directors' Association should appoint a committee to conduct a study of the turn-over problem in school board membership and to report to the 1970 meeting with recommendations for appropriate legislation.

Submitted by the Walla Walla County
Directors' Association
Earl Smith, President

16 b)

WHEREAS the Washington State School Directors' Association is concerned about our deteriorating environment and its members hold that education is one of the few resources for restoring and maintaining a wholesome environment,

BE IT RESOLVED that the WSSDA urges that the state legislature and local school districts make special efforts to plan and sustain programs of environmental education, and

FURTHER BE IT RESOLVED that a state appropriation of not less than $50,000 be sought to plan curricula and obtain and develop sites to achieve these ends.

Passed 12/2/69

Submitted by the Board of Sedro Woolley
School District No. 101
Dale W. Thompson, Chairman

Environment Council Unit To Support Seven Bills

The executive committee of the Washington Environmental Council has decided to seek passage of seven bills during the special session of the Legislature beginning in January.

In addition, the council will support or oppose bills proposed by other groups according to their impact on the environment, Thomas O. Wimmer, Sr., president, said today.

THE COUNCIL'S seven bills, drafted by volunteer attorneys, would:

Establish a Deparrment of Environmental Quality to provide air- and water-pollution control and solid-waste disposal.

Establish a seacoast management act to encourage counties with saltwater shoreline "to properly zone their saltwater frontage lands in order to protect and maximize its value to all citizens . . ."

Require the restoration of ground cover in strip-mining areas.

Preserve open-space lands through "the use of favorable assessment practices."

Authorize the Interagency Committee for Outdoor Recreation to inventory and classify the shorelands and tidelands of the state and to recommend appropriate uses for those lands.

Establish a state commission "to protect the public's interest in the location of large thermal-power plants and the routing of their power lines.

Establish liability and cleanup responsibility for accidental oil spills.

THE COUNCIL executive committee also agreed to support the reintroduction of Gov. Dan Evans' proposal for the formation of a Department of Transportation.

Also winning committee support was the request of Western Washington State College for funds to develop an environmental curriculum for children from Northwest Washington school districts on college land on

MAIN 3-1200

PUGET SOUND GOVERNMENTAL CONFERENCE
FERRY TERMINAL BUILDING, PIER 52 SEATTLE, WASHINGTON 98104

December 15, 1969

The Honorable Daniel J. Evans
Governor, State of Washington
Olympia, Washington 98501

Dear Governor Evans:

The Environmental Policy Committee of the Puget Sound Governmental Conference strongly urges your support of the request for an Environmental Education grant made by Mr. William J. Stocklin, Director of the Northwest Outdoor Education Laboratory.

In our opinion, Mr. Stocklin's proposal deserves the highest priority consideration. The funding requested is extremely modest in view of the anticipated long-run favorable impact on the environment. It is important that this proposal is not just concerned with improving the level of education in outdoor recreation or conservation. The development in young people of an awareness of their total environment, and an understanding of how man can fit into the natural environment without bringing about his own destruction is a matter demanding our deepest concern.

In our own Environmental Planning Program in the Puget Sound region, we have become increasingly aware of the critical need for public education on environmental issues. Much of the necessary support for urgent environmental legislation and policy would be forthcoming, we feel, if the public is made aware of the full nature and extent of the problems at hand, and of the actual options available to them. Mr. Stocklin's proposed program would substantially help to achieve this, and in fact, would provide a start toward a program of public education which will be absolutely essential, not only for preservation of the natural environment in the State of Washington, but for the survival of man himself.

Very truly yours,

Robert R. McAbee
Executive Director

JRC:RRM/isp

cc: Mr. Louis Bruno, State Superintendent of Schools
Mr. W. Stocklin, Director, Northwest Outdoor Education Laboratory
Senate Committee on Education
House of Rep. Committee on Education and Libraries

The Izaak Walton League of America

INCORPORATED

BUILDING A BETTER OUTDOOR AMERICA

GREATER SEATTLE CHAPTER

Webb Trimble, Pres.	John Glude, v-Pres.	Neal Butterfield, Secty.,	Mark Pike, Treas.
1230 Federal Ave. E.	3231 30th Ave. W.	14257 S.E. 179 Pl.	28724 Beach Drive
Seattle 98102	Seattle 98199	Renton, Wn. 98055	Redondo 98054
583-5250	583-7575	583-5542	583-5336

Richard B. Thompson, Program Chairman, 2725 Montlake Blvd., Seattle 583-5327

December 12, 1969

The Honorable Daniel J. Evans, Governor
State of Washington
Olympia, Washington 98501

Dear Governor Evans:

I should like to inform you that the Board of Directors of the Greater Seattle Chapter of the Izaak Walton League have approved an endorsement of the Northwest Outdoor Education Laboratory located on Whidbey Island.

Included in the aims and purposes of the Izaak Walton League are the protection and restoration of American soil, woods, waters, and wildlife, and to foster the wise use of all natural resources. We believe that education of the general public is extremely important in furthering the aims of the Izaak Walton League.

We hope that the bills you propose to the next Special Session of the legislature on environment include an appropriation for planning for the Northwest Outdoor Education Laboratory and the possibilities of extending the concept to other portions of our state. Such ar executive request will have the endorsement and support of the Izaak Walton League.

Sincerely yours,

Webb Trimble

Webb Trimble, President
Izaak Walton League
Greater Seattle Chapter
1230 Federal Avenue East
Seattle, Washington 98102

bcc: Mr. William J. Stocklin, Director
Northwest Outdoor Education Laboratory
Western Washington State College
Bellingham, Washington 98225

} not an original

W
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9
SEA
POS

December 17, 1969

The Honorable Daniel J. Evans
Governor, State of Washington
Executive Offices
Olympia, Washington 98501

Dear Governor Evans:

The Northwest Outdoor Education Laboratory has been endorsed by the Executive Committee of the Washington Education Association at its meeting December 13, 1969. This program which will provide an understanding of environmental causes and effects will go a long way toward development of proper understanding about the need to prevent pollution of the air, land and sea for the youth of the state. We believe that this kind of program is needed and we are at a time in education's history in this state when steps must be taken to develop better understanding of man's environment.

We know that your interest in good education and your concern for developing understanding of the public in regard to good outdoor environment assure a sound hearing regarding this proposal. We believe this program in the best interests of the public in developing understandings of the needs for a pure environment.

Sincerely yours,

Robert J. Addington
Executive Secretary

RJA:bc

cc: William J. Stocklin
State Superintendent of Public Instruction Louis Bruno
Bert Cole, Commissioner of Public Lands

SOCIETY OF AMERICAN FORESTERS

PUGET SOUND SECTION
1419 Arnold Ave.
Aberdeen, Washington
January 2, 1970

The Honorable Daniel Evans, Governor
State of Washington
Olympia, Washington

Dear Governor Evans:

At the December 16, 1969 executive meeting of the Puget Sound Section of The Society of American Foresters a resolution was unanimously adopted supporting the legislative effort of the Northwest Outdoor Education Laboratory to obtain $50,000.00 funding to plan an Rnvironmental Education Curriculum and to prepare pre-planning documents in anticipation of a capital budg et request which will now be made in January, 1970.

Our professional foresters have been active at the "tree roots" level in our state for twenty years in helping young people understand how forests function. This resolution is in line with our national policy which states in part "The principles of scientific land management that form the basis of the training of the professional forester are an important part of the nation's cultural base." The Society encourages the dissemination of these principles and their applications to the general public in every way possible.

Your concern with environmental quality will be appreciated by all thinking citizens.

Yours truly,

Prosper F Ostrowski, Chairman
Puget Sound Section
Society of American Foresters

Copies to: Joint Committee on Education
William J. Stocklin, Dir of NW Outdoor Ed Lab
Louie Bruno, Supt of Inst

January 16, 1970

The Honorable Daniel J. Evans,
Governor, State of Washington;
State Representatives;
State Senators; and
Concerned Persons

It is ironic that at a time when we can afford to consider improving the quality of life for all Americans that we must also consider how we are to survive the byproducts of our technological advances. Pollution of our air and water, misuse of our lands, and an unprecedented population growth are beginning to threaten not only the quality of our environment but the survival of man himself.

As yet, there has been little effective effort in this country to educate people to man's relationship and responsibility to his environment. We need harmonious action on the part of all segments of society to reverse the present trends, to bring about a change in public attitude, and to offer reasonable and sensitive ways to deal with the environmental problems in the future.

Thus: be it resolved that the Council of Washington State Student Body Presidents endorses and urges endorsement of a pilot program, the Northwest Environmental Education Center, to be instituted within this state and which will provide an educational setting for the instruction of both students and adults, leading to a critical understanding of and sound judgment about man and his environment by this and succeeding generations.

Sincerely,

Greg Baker
Al Doan
for CWSSBP

honorary chairman
daniel j. evans
governor

chairman
tim wing
central washington state college

members:

bob vanschorrl
eastern washington state college

steve boyd
university of washington

brian benzel
washington state university

al doan
western washington state college

council of
washington state student body presidents

student government association / central washington state college
ellensburg, washington 98926 / (509) 963-1691

BOARD OF EDUCATION

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Douglas W. Clarke
Board Secretary

Oak Harbor School District 201

1250 Midway Boulevard

OAK HARBOR, WASHINGTON 98277

ADMINISTRATION

Wilbur Gilbert
Superintendent

Ted Knutsen
Assistant Superintendent
of Instruction

Douglas Clarke
Assistant Superintendent
of Business

William Garrison
Operations Supervisor

February 19, 1970

William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Wash. 98225

Dear Bill:

Oak Harbor School District No. 201 plans to continue its financial support of 15¢ per pupil for the development of the Northwest Environmental Education Center.

Sincerely,

Douglas Clarke

Douglas Clarke
Asst. Supt., Business

dc/ec

FERNDALE SCHOOL DISTRICT #502
Ferndale, Washington
October 22, 1970

Mr. Louis Bruno
State Superintendent of Public Instruction
P. O. Box 527
Olympia, Washington 98501

Dear Louie:

I have received a copy of the Environmental Education Centers Project proposal for a regional program of environmental education at the Whidbey Island site.

Much thought appears in the planning, and I believe that the plan offers positive direction for achieving our goals in presenting a viable program in our schools.

I am very much in favor of having our staff included in the training because this will make possible concerted effort for curriculum development through people who are prepared to do the job in the district.

In the long run, environmental awareness and the solution of problems present and yet to come will depend upon an educational program in which the world is the site and the school its first center of out-reach.

We have much to do. Hopefully the plan will receive the support necessary to get started.

Sincerely,

James Norris, Ed. D.
Superintendent

JN:mtr
cc/ William J. Stocklin

NOOKSACK VALLEY PUBLIC SCHOOLS

DISTRICT NUMBER 506
PATRICK IRVIN
SUPERINTENDENT
PHONE 988-4754
NOOKSACK, WASHINGTON 98276

DIRECTORS
BRUCE BROWNING, *Chairman*
LAWRENCE BENNER
CARL CARLSON
EARL CROUSE
HERSHEL WILEY
PATRICK IRVIN, *Clerk*

PRINCIPALS
PAUL MCABEE
High School
NORBERT LUEHMANN
Curriculum & Activities Director
CLINT MCBEATH
Everson-Nooksack Elementary
WILLIAM S. PERRY
Sumas Elementary

April 3, 1970

Mr. William Stocklin, Director
N.O.E.L.
Western Washington State College
Bellingham, Washington 98225

Dear Bill:

The Nooksack Valley School District Board of Directors in regular session on March 26 voted to rejoin N.O.E.L.

The March 25th, 1969-70 billing has been approved and the check will be mailed as soon as processing is complete.

Sincerely,

Patrick Irvin

Patrick Irvin
Superintendent

PI/dm

Mukilteo School District No. 6

P. O. Box 5
Mukilteo, Washington 98275

WILLIAM C. PETERSEN, PRESIDENT
WILLIAM H. RHODES, VICE PRESIDENT
GEORGE O. WOODS
BENEDICT B. ANDERSON
MRS. HELEN M. SUBITCH

ERNEST LUDWICK, JR.
SUPERINTENDENT and
BOARD SECRETARY

LESLIE A. WILSON
ASST. SUPERINTENDENT

19 June 1970

Mr. William J. Stocklin
Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

Mukilteo School District No. 6 has supported an outdoor education program for all sixth graders since 1949. We are very desirous of developing an outdoor education program that would cover grades K - 12.

Naturally, much will be developed at the local level but the Whidbey Island site fits into plans for future inter-disciplinary curriculum with a much broader scope and potential. We wholeheartedly support the over-all program and will pledge financial backing based on the availability of local, state and federal funding and final Board action on an annual basis.

The program has been well managed by you and Mukilteo School District No. 6 supports you as the director. We wish the project continued success.

Sincerely,

Ernest Ludwick Jr.

Ernest Ludwick, Jr.
Superintendent

er

353-8121

Mukilteo School District No. 6

P. O. Box 5
Mukilteo, Washington 98275

WILLIAM C. PETERSEN, PRESIDENT
WILLIAM H. RHODES, VICE-PRESIDENT
GEORGE O. WOODS
BENEDICT B. ANDERSON
MRS. HELEN M. SUBITCH

ERNEST LUDWICK, JR.
SUPERINTENDENT and
BOARD SECRETARY

LESLIE A. WILSON
ASST. SUPERINTENDENT

April 6, 1970

William J. Stocklin, Director
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

Once again I refer to your letter of March 3, 1969. We are unable as stated in my first letter to participate in this program for the 1969-70 school year. We will, however, participate in this program for the 1970-71 school year.

Sincerely,

James H. Jenft
Business Manager

JJ:gk

DIRECTORS

Jack Chrysler, President
Norman W. Nelson, Vice-President
Dwight A. Hillier, Member
John V. Hopley, Member
arles R. Twede, Member
.th E. Robertson, Secretary

BURLINGTON-EDISON SCHOOL DISTRICT NO. 100

936 VICTORIA AVENUE
BURLINGTON, WASHINGTON 98233
Telephone 755-2611

ADMINISTRATION

Nathaniel H. Moore, Superintendent
Wm. R. Atwood, Administrative Assistant
John P. Norris, Principal, High School
Richmon M. Payne, Principal, Allen
D. James Costanti, Principal, Edison
C. J. Rowe, Principal, Lucille Umbarger
Gary L. Mansfield, Principal, West View
G. M. Frasier, Director of Special Services

June 9, 1970

Mr. William Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

We have been steady supporters of the Northwest Environmental Education Center since the inception of this project. You may not be aware that it was the Burlington-Edison School District which originally identified this site and set in motion the first organizational structure to develop the salt water site; this was approximately 10 years ago. We have continued to provide funds for this project, but were not able to make anywhere near the progress that you have made during the past few years with the development.

Please be assured that our contribution is budgeted for the ensuing fiscal year and that you have our wholehearted support.

Sincerely,

Nathaniel H. Moore

NATHANIEL H. MOORE
Superintendent

cl

BOARD OF DIRECTORS

Raymond Pinson, *President*
Nick J. Petrish, *Vice President*
E. A. Henke
Jack L. Reid
Charles Valentine

ANACORTES PUBLIC SCHOOLS

District Number 103
Administration Office
1402 24th Street — Phone 293-3171
Anacortes, Washington 98221

Arnold A. Bowers
Superintendent

Lewis W. McKay
Assistant Superintendent

June 9, 1970

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

The Anacortes School District has participated actively in planning the Northwest Environmental Center since 1965 and has provided financial support since 1967 to present. Because of the loss of levies to support the school district during the 1970-71 school year, we have been forced to reduce our education program drastically. It has even been necessary to close two of the four elementary schools in the district because of severe cuts in staff and our inability to staff these schools. Similar cuts in program have occurred in the secondary schools.

We feel we have a worthwhile investment in the Northwest Environmental Center and that a worthy environmental education program can only be provided through the cooperative effort of all the schools in the area. However, I must inform you that we will be unable to contribute to the support of this important program during the 1970-71 school year. At the same time I wish to express that it is our desire and intent to renew support at the earliest opportunity.

I would also like to relate to you that although our staff will be carrying a heavy burden, there are members who have requested that I communicate to you their desire to contribute of their own personal time to the success of this program.

Sincerely,

Arnold A. Bowers

Arnold A. Bowers
Superintendent

AAB:lw

SHORELINE PUBLIC SCHOOLS

June 15, 1970

Dear Mr. Stocklin:

We of the Shoreline School District want to express to you our appreciation for the leadership you have given to the Environmental Education Centers Project.

As you know, we have been extremely interested and supportive, both financially and curricular-wise, and look with deep interest and anticipation to the continuation and expansion of the program. We are heavily committed to the total concept of environmental education and believe through the regional plan we are able to fulfill one of our critical needs. We are again committed to our contribution of fifteen cents per pupil for the 1970-71 school year. If each school district in the region contributes at this rate it is our hope that plans and program will move steadily forward.

Again, we want to thank you for your leadership and for your inspiration in this program.

Sincerely,

William G. Stevenson
Superintendent

cb

xc: Superintendent's Cabinet

Dr. William J. Stocklin, Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Shoreline Public Schools
NE 158th and 20th NE
Seattle, Washington 98155

BOARD OF EDUCATION

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Milton W. Schulte

Douglas W. Clarke
Board Secretary

Oak Harbor School District 201

1250 Midway Boulevard

OAK HARBOR, WASHINGTON 98277

ADMINISTRATION

Wilbur Gilbert
Superintendent

Ted Knutsen
Assistant Superintendent
for Instruction

Douglas Clarke
Assistant Superintendent
for Business

William Garrison
Operations Supervisor

June 15, 1970

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

The Oak Harbor School District lends support in every way to the development of the Northwest Environmental Education Center.

Our community, teachers and students are commited to the idea that environmental education is a top priority item for the future. The northwest lab on Whidbey Island is just beginning to fill the void that is apparent to all of us.

I urge you to use all your resources to seek out funding wherever available to develop this cooperative venture. It is inspiring to see a great majority of the school districts in the five northwest counties pulling together to make this project a model.

Please contact me if there is anything we can do to help insure the success of this development.

Yours truly,

Ted Knutsen

Ted Knutsen
Ass't Superintendent for Instruction

HTK:go

MARYSVILLE PUBLIC SCHOOLS

Address: 1513 Seventh Street

Snohomish County District No. 25
Marysville, Washington

Telephone: OLive 9-6261

June 16, 1970

Mr. William J. Stocklin, Director
Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Bill:

This letter is to notify you that the Superintendent of Schools, Marysville School District #25, Marysville, Washington will be recommending to the Board of Directors that the Northwest Environmental Education Project be supported during the 1970-71 school year. It shall also be the intent of the superintendent to continue to support the project as it is now constituted.

Please call on me any time you are in need of assistance and I shall be more than happy to help you.

Sincerely,

Milton L. Snyder

MILTON L. SNYDER
Superintendent

MLS:ed

Harold E. Silvernail
Superintendent

John A. Porter
Ass't. Supt. Instruction

E. M. "Jack" Allen
Ass't Supt., Business
District Secretary

ADMINISTRATIVE CENTER

PROSPECT 8-8931 / 3800 196 SW / LYNNWOOD, WASHINGTON 98036

EDMONDS SCHOOL DISTRICT NO. 15
SNOHOMISH COUNTY

June 17, 1970

Dr. William J. Stocklin, Director
Environmental Education Centers Project
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Dr. Stocklin:

We are pleased to respond to your request stating our present and future support of the Northwest Environmental Education Center.

As you are well aware, our district has consistently supported this project over the years as one of the largest districts involved. Our district has one of the longest records of fiscal as well as serious actual support of the development of the Whidbey Island site for schools in the northwest counties.

It is our intention, for the foreseeable future, to continue our support of the general goals of the Northwest Environmental Education Center. Our district is developing, as you know, additional programs within our curriculum and school organization for resources, teaching materials and better inservice opportunities for our staff concerned with environmental education. One of our important needs involves additional site facilities. It is hoped that as the Northwest Center develops, it will keep this in mind as it has in the past.

We are pleased to hear from you. We hope to have our staff even more involved as developments become more specific.

Sincerely yours,

Harold E. Silvernail

HAROLD E. SILVERNAIL
Superintendent

John A. Porter

JOHN A. PORTER
Assistant Superintendent - Instruction

JAP/ml

Coupeville Consolidated Schools

District 204

Coupeville, Washington 98239

June 17, 1970

F. GLENN MACOMBER
Superintendent

JAY D. CONNER
Director PACE Program

EUGENE T. PYLES
Secondary School Principal

HOWARD W. JACOBSON
Elementary Principal

William J. Stocklin, Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

Reference your letter of June 8th, the Coupeville School System will continue to support the Northwest Environmental Education Center as it has done in the past as we feel this is an exceptionally important project in public education.

Sincerely,

F. G. Macomber
Superintendent

FGM/jog

ADMINISTRATION

Harold G. Zwaschka,
Superintendent of Schools

Thomas Sofie,
Principal, Grade Schools

George Carberry, Jr.,
Principal, Sultan High School

Clarence M. Yarnell,
Head Teacher, Startup School

Sultan
Public Schools

SCHOOL DISTRICT No. 30
of Snohomish County

SULTAN, WASHINGTON
98294

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Director

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Director

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Director

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Director

E. Dolores Oelrich,
Clerk of the Board

June 17, 1970

Mr. William J. Stocklin, Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

This is to assure you that our district is still interested in the Salt Water Site as a worthy project to further environmental education for public schools and colleges of the Northwest Region. The project has had our financial support from the beginning along with other schools of the Northwest Region.

We believe that the potential of this project for outdoor education is worthy of continued support.

Sincerely yours,

Harold G. Zwaschka

Harold G. Zwaschka
Superintendent

HGZ/mm

WM. CASTLES, *Clerk*
Deming, Washington

WM. CASTLES
SUPERINTENDENT

Mount Baker Schools

DISTRICT NO. 507
DEMING, WASHINGTON 98244

MOUNT BAKER JUNIOR-SENIOR HIGH SCHOOL

ELEMENTARY SCHOOLS
ACME—
DEMING—
HARMONY—
MAPLE FALLS—

June 22, 1970

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington

Dear Mr. Stocklin:

This letter is intended to advise that the Mt. Baker School District strongly supports your program of development of the Northwest Environmental Education Center and has budgeted funds for this district's share of development and operation costs for the 1970-71 school year.

As a member of the original committee which first met with Mr. Bert Cole of the State Department of Natural Resources in applying for the long term lease to the Whidbey Island site, I have long had a strong desire to see this program develop. We know that the educational needs of our students require that resources of the kind that can be developed at the Whidbey Island site must be available. So, this school district has paid its share of the costs each year and plans to do so in the future.

Please call on us if there is any way that we might support your program of development of the site to meet the critical need for environmental education on a regional basis.

Very truly yours,

Wm. Castles

Wm. Castles
Superintendent

NOOKSACK VALLEY PUBLIC SCHOOLS

DISTRICT NUMBER 506
PATRICK IRVIN
SUPERINTENDENT
PHONE 988-4754
NOOKSACK, WASHINGTON 98276

DIRECTORS
BRUCE BROWNING, *Chairman*
LAWRENCE BENNER
CARL CARLSON
EARL CROUSE
HERSHEL WILEY
PATRICK IRVIN, *Clerk*

PRINCIPALS
PAUL McABEE
High School
NORBERT LUEHMANN
Curriculum & Activities Director
CLINT McBEATH
Everson-Nooksack Elementary
WILLIAM S. PERRY
Sumas Elementary

June 23, 1970

Mr. William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

The Nooksack Valley School Directors recognized the need for a cooperative effort in environmental education several years ago when they were one of the early participants in the Northwest Environmental Education Center Project.

The directors supported this recognition by continued financial participation in the early stages of the project until a special levy failure in 1969 placed the district in financial difficulty. In 1970 financial support was re-instated and will be expected to be continued in the future.

The Nooksack Valley Directors, in the past, have looked with favor on cooperative projects of a county or regional nature and generally have been active participants. I see no reason why this favorable attitude should change.

The directors recognize that a larger scope or base of a project will encompass a broader base of resources and talents and aid in guaranteeing success of a project.

The directors recognize that cooperative participation is the only means by which smaller districts will be able to provide educational opportunities of this nature to their students.

I sincerely believe you should be able to count on our continued participation and support in your efforts to provide environmental education opportunities to the youth of this area.

Sincerely,

Patrick Irvin

180

Patrick Irvin
Superintendent

PI/dm

SNOHOMISH PUBLIC SCHOOLS

SNOHOMISH, WASHINGTON 98290

HOWARD M. COBLE
SUPERINTENDENT

ADMINISTRATION OFFICE
FIFTH STREET AND AVENUE E

June 1, 1970

Mr. William J. Stocklin, Director
Environmental Education Centers Project
Western Washington State College
Bellingham, Washington 98225

Dear Mr. Stocklin:

I regret to inform you that the economies necessary in a difficult budget year prevent us from including the Whidbey Island Project in our preliminary budget.

This was not an easy decision for we all recognize the tremendous advantages of outdoor education facilities and the need to build an even greater awareness of environmental needs. It is possible that at the time of our final budget in October we may be able to reconsider this decision, as much depends on actual enrollment and tax collections.

I will appreciate your keeping me informed as to progress and trust that this lack of action is only temporary.

Yours sincerely,

HOWARD M. COBLE
Superintendent

HMC:hm

Skagit Valley College
A Community College
2405 College Way
Mount Vernon, Washington 98273

BOARD OF TRUSTEES:
Dr. R. M. Hoag, Chairman
Mr. H. P. Creel
Mr. Norman Dahlstedt
Dr. J. W. McCann
Mr. N. P. Oldenburg

March 26, 1970

William J. Stocklin, Director
Environmental Education Center Project
Western Washington State College
Bellingham, Washington

Dear Bill

Since we did not have the Northwest Outdoor Laboratory dues in our 1968-69 or 1969-70 budgets, we are unable to pay these.

I have included this in our 1970-71 budget based on approximately 1400 students.

Sincerely

James M. Ford
Dean of Instruction

JMF/ja

Skagit Valley College
A Community College
2405 College Way
Mount Vernon, Washington 98273

BOARD OF DIRECTORS
Dr. R. M. Hoag, Chairman
Mr. H. P. Cook
Mr. Norman Dahlstedt
Dr. J. V. McConn
Mr. N. P. Oldenburg

November 12, 1969

The Honorable Daniel J. Evans
Governor
State of Washington
Olympia, Washington 98501

Dear Governor Evans

We strongly support the concept and the developmental plan for the Northwest Outdoor Education Laboratory. In fact such a facility is urgently needed to assist in the inculcation of health environmental attitudes in our children of today if our planet is to remain as a liveable and pleasant place for our children of tomorrow. We have not succeeded in the development of such attitudes by merely discussing conservation, etc. in our traditional classrooms. Outdoor laboratories and experiments under actual environmental conditions are proof to our questioning youth of today.

It is conceivable that many institutions will cooperate in such a project as this because this provides for transitions from one level to another. It also is one that more minds, more resources, and more time can be applied to the pressing environmental problems with which we are faced.

Skagit Valley College feels fortunate to be a participant in such an innovative venture. We are pleased that our faculty and students can be exposed to, can be a part of, and can utilize such a facility which has as its ultimate goal the benefit of all mankind. We sincerely hope that this project will continue to progress and become more of a reality to the end to which it is needed.

Sincerely

James H. Ford
Dean of Instruction

JHF/jo

STATE OF WASHINGTON

Department of

Natural Resources

COMMISSIONER
BERT COLE

DON LEE FRASER
SUPERVISOR

Sedro Woolley, Washington
June 16, 1970

William J. Stocklin, Director
Northwest Environmental Education Center
Western Washington State College
Bellingham, Washington 98225

Dear Bill:

The Department of Natural Resources Sedro Woolley office endorses the program presented by the Northwest Environmental Education Center for a Regional Pilot Program.

As custodian of the Common School lands on which N.W.E.E.C. is situated, our Department has been active in the generation of environmental education in this area. The 600 acre parcel was placed on a land withdrawal for educational purposes by State land Commissioner Bert Cole in 1958. The program has grown and blossomed since.

The Pilot Program requested would be a vital step towards filling the "environmental education gap" so increasingly evident in our society.

We will cooperate in every way to make the Regional Pilot Program a success.

Very truly yours,

BERT L. COLE, Commissioner

By Dale V. Thompson
Dale V. Thompson
District Administrator

DVT:ah

"HUMAN HISTORY BECOMES
MORE AND MORE A RACE
BETWEEN EDUCATION AND CATASTROPHE."

— H. G. WELLS

THAT'S WHAT IT'S ALL ABOUT.